

**UNIVERSIDADE FEDERAL DO ESPÍRITO SANTO**  
**CENTRO DE CIÊNCIAS HUMANAS E NATURAIS**  
**PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIAS BIOLÓGICAS**

**Revisão de *Eupsenella* Westwood (Hymenoptera, Bethylidae)**

**Magno Suprani Ramos**

**Vitória, ES**  
**Fevereiro, 2012**

**UNIVERSIDADE FEDERAL DO ESPÍRITO SANTO**  
**CENTRO DE CIÊNCIAS HUMANAS E NATURAIS**  
**PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIAS BIOLÓGICAS**

**Revisão de *Eupsenella* Westwood (Hymenoptera, Bethylidae)**

**Magno Suprani Ramos**

**Orientador:** Celso Oliveira Azevedo

**Dissertação submetida ao Programa de Pós-Graduação em Ciências Biológicas (Biologia Animal) da Universidade Federal do Espírito Santo como requisito parcial para a obtenção do grau de Mestre em Biologia Animal**

**Vitória, ES  
Fevereiro, 2012**

## Agradecimentos

Agradeço primeiramente a minha família, mesmo sabendo que tais agradecimentos chegam a ser redundantes, já que ela é o pilar em que sustento toda minha vida. Sem sua compreensão, apoio e incentivo tanto emocional quanto financeiro não completaria esta etapa.

Ao meu orientador os maiores e mais sinceros agradecimentos. Sua confiança, paciência, compreensão, apoio, incentivo emocional e financeiro e orientação me fizeram trilhar por um crescimento profissional que julgava, em alguns momentos, impossível em tão pouco tempo.

Agradeço especialmente à minha esposa, minha companheira nesta trajetória, sempre presente soube compreender, como ninguém, a fase pela qual eu estava passando. Através de sua paciência, incentivo e calma tive força e certeza de que completaria esta etapa.

Muito obrigado a todos os colegas de laboratório. Ao Diego pela ajuda no uso do programa DELTA e análise dos caracteres. Ao Paulo, Diego e ao Felipe pela ajuda no uso do programa de digitalização dos desenhos e padronização das fotografias. À Geane pelas discussões sobre os caracteres presentes nas asas, sem as quais algumas hipóteses seriam impossíveis de serem propostas. À Daniele pela ajuda na preparação das lâminas de genitália e hipopígio a serem ilustradas. À Fernanda, Lidiana, Juliana e Roberta pelas conversas, sorrisos, apoio concedidos, ajuda na análise dos caracteres e pelas boas horas de companhia no laboratório.

Agradeço à Glenda Barbosa pelo tratamento digital das fotografias.

Muito obrigado a CAPES pela concessão da bolsa.

Agradeço o suporte oferecido pelos curadores dos museus dos quais o material analisado provém: Nicole Fisher (ANIC), Peter Hudson (SAMA) e Darren Ward (NZAC). Aos dois últimos agradeço em especial, pois sem a prestatividade do P. Hudson em fotografar os holótipos das espécies depositadas no SAMA não teria sido possível analisá-los adequadamente. Ao D. Ward agradeço pela sua colaboração e esclarecimentos sobre diversos assuntos em todos os momentos em que foi requisitado.

Muito obrigado ao PPGBAN e seus professores pelas aulas sempre muito esclarecedoras e em especial àqueles que aceitaram compor minha banca de avaliação.

Finalmente, agradeço a todos aqueles que torceram por mim, me incentivaram a nunca desistir e que nesta correria eu acabei por esquecer-me de citar.

## Sumário

<b>Agradecimentos .....</b>	<b>2</b>
<b>Lista de figuras .....</b>	<b>6</b>
<b>Resumo .....</b>	<b>9</b>
<b>Abstract .....</b>	<b>9</b>
<b>Apresentação .....</b>	<b>10</b>
<b>Referências bibliográficas .....</b>	<b>11</b>
<b>1. Revisão de <i>Eupsenella</i> (Hymenoptera, Bethyridae) .....</b>	<b>12</b>
<b>2. Material e métodos .....</b>	<b>13</b>
<i>Material biológico .....</i>	<i>13</i>
<i>Tratamento taxonômico .....</i>	<i>13</i>
<i>Lista de caracteres analisados .....</i>	<i>14</i>
<b>3. Resultados .....</b>	<b>21</b>
<i>Chave para Eupsenella .....</i>	<i>21</i>
<i>Taxonomia .....</i>	<i>25</i>
<i>Eupsenella</i> Westwood .....	25
<i>Eupsenella agilis</i> Westwood .....	26
<i>Eupsenella ceciliae</i> Terayama .....	26
<i>Eupsenella diemenensis</i> Dodd .....	27



<i>Eupsenella flavifemorata</i> Terayama .....	29
<i>Eupsenella insulana</i> Gordh & Harris .....	30
<i>Eupsenella reticulata</i> Terayama .....	34
<i>Eupsenella</i> sp. nov. 1 .....	34
<i>Eupsenella</i> sp. nov. 2 .....	37
<i>Eupsenella</i> sp. nov. 3 .....	39
<i>Eupsenella</i> sp. nov. 4 .....	41
<i>Eupsenella</i> sp. nov. 5 .....	43
<i>Eupsenella</i> sp. nov. 6 .....	45
<i>Eupsenella</i> sp. nov. 7 .....	48
<i>Eupsenella</i> sp. nov. 8 .....	50
<i>Eupsenella</i> sp. nov. 9 .....	52
<i>Eupsenella</i> sp. nov. 10 .....	54
<i>Eupsenella</i> sp. nov. 11 .....	56
<i>Eupsenella</i> sp. nov. 12 .....	59
<i>Eupsenella</i> sp. nov. 13 .....	60
<i>Eupsenella</i> sp. nov. 14 .....	62
<i>Eupsenella</i> sp. nov. 15 .....	65
<i>Eupsenella</i> sp. nov. 16 .....	68
<i>Eupsenella</i> sp. nov. 17 .....	70
<i>Eupsenella</i> sp. nov. 18 .....	72
<i>Eupsenella</i> sp. nov. 19 .....	74
<i>Eupsenella</i> sp. nov. 20 .....	76
<i>Eupsenella</i> sp. nov. 21 .....	78
<i>Eupsenella</i> sp. nov. 22 .....	80
<i>Eupsenella</i> sp. nov. 23 .....	82
<i>Eupsenella</i> sp. nov. 24 .....	85
<i>Eupsenella</i> sp. nov. 25 .....	86
<i>Eupsenella</i> sp. nov. 26 .....	88
<i>Eupsenella</i> sp. nov. 27 .....	90
<i>Eupsenella</i> sp. nov. 28 .....	92

<i>Eupsenella</i> sp. nov. 29 .....	94
<i>Eupsenella</i> sp. nov. 30 .....	96
<i>Eupsenella</i> sp. nov. 31 .....	98
<i>Eupsenella</i> sp. nov. 32 .....	100
<i>Eupsenella</i> sp. nov. 33 .....	101
<i>Eupsenella</i> sp. nov. 34 .....	103
<i>Eupsenella</i> sp. nov. 35 .....	105
<i>Eupsenella</i> sp. nov. 36 .....	107
<i>Eupsenella</i> sp. nov. 37 .....	109
<i>Eupsenella</i> sp. nov. 38 .....	111
<b>4. Discussão .....</b>	<b>113</b>
<b>5. Conclusão .....</b>	<b>116</b>
<b>6. Agradecimentos .....</b>	<b>117</b>
<b>7. Referências .....</b>	<b>117</b>
<b>8. Figuras .....</b>	<b>119</b>

## Lista de figuras

**Figuras 1–2. Asa anterior direita de *E. sp. nov. 8*.** 1. Células da asa anterior. 2. Nervuras da asa anterior.

**Figuras 3–14. Cabeça em vista dorsal.** 3. *E. ceciliae*. 4. *E. diemenensis*. 5. *E. flavifemorata*. 6. *E. insulana* female. 7. *E. insulana* male. 8. *E. reticulata*. 9. *Eupsenella sp. nov. 1*. 10. *Eupsenella sp. nov. 2*. 11. *Eupsenella sp. nov. 3*. 12. *Eupsenella sp. nov. 4*. 13. *Eupsenella sp. nov. 5*. 14. *Eupsenella sp. nov. 6*. (Escala = 300 µm).

**Figuras 15–26. Cabeça em vista dorsal.** 15. *Eupsenella sp. nov. 7*. 16. *Eupsenella sp. nov. 8*. 17. *Eupsenella sp. nov. 9*. 18. *Eupsenella sp. nov. 10*. 19. *Eupsenella sp. nov. 11*. 20. *Eupsenella sp. nov. 12*. 21. *Eupsenella sp. nov. 13*. 22. *Eupsenella sp. nov. 14*. 23. *Eupsenella sp. nov. 15*. 24. *Eupsenella sp. nov. 16*. 25. *Eupsenella sp. nov. 17*. 26. *Eupsenella sp. nov. 18*. (Escala = 300 µm).

**Figuras 27–38. Cabeça em vista dorsal.** 27. *Eupsenella sp. nov. 19*. 28. *Eupsenella sp. nov. 20*. 29. *Eupsenella sp. nov. 21*. 30. *Eupsenella sp. nov. 22*. 31. *Eupsenella sp. nov. 23*. 32. *Eupsenella sp. nov. 24*. 33. *Eupsenella sp. nov. 25*. 34. *Eupsenella sp. nov. 26*. 35. *Eupsenella sp. nov. 27*. 36. *Eupsenella sp. nov. 28*. 37. *Eupsenella sp. nov. 29*. 38. *Eupsenella sp. nov. 30*. (Escala = 300 µm).

**Figuras 39–47. Cabeça em vista dorsal.** 39. *Eupsenella sp. nov. 31*. 40. *Eupsenella sp. nov. 32*. 41. *Eupsenella sp. nov. 33*. 42. *Eupsenella sp. nov. 34*. 43. *Eupsenella sp. nov. 35*. 44. *Eupsenella sp. nov. 36*. 45. *Eupsenella sp. nov. 37*. 46. *Eupsenella sp. nov. 38*. 47. *E. agilis*. (Escala = 300 µm).

**Figuras 48–56. Mesossomo em vista dorsal.** 48. *E. ceciliae*. 49. *E. diemenensis*. 50. *E. flavifemorata*. 51. *E. insulana* female. 52. *E. insulana* male. 53. *E. reticulata*. 54. *Eupsenella sp. nov. 1*. 55. *Eupsenella sp. nov. 2*. 56. *Eupsenella sp. nov. 3*. (Escala = 300 µm).

**Figuras 57–65. Mesossomo em vista dorsal.** 57. *Eupsenella sp. nov. 4*. 58. *Eupsenella sp. nov. 5*. 59. *Eupsenella sp. nov. 6*. 60. *Eupsenella sp. nov. 7*. 61. *Eupsenella sp. nov. 8*. 62. *Eupsenella sp. nov. 9*. 63. *Eupsenella sp. nov. 10*. 64. *Eupsenella sp. nov. 11*. 65. *Eupsenella sp. nov. 12*. (Escala = 300 µm).

**Figuras 66–74. Mesossomo em vista dorsal.** 66. *Eupsenella* sp. nov. 13. 67. *Eupsenella* sp. nov. 14. 68. *Eupsenella* sp. nov. 15. 69. *Eupsenella* sp. nov. 16. 70. *Eupsenella* sp. nov. 17. 71. *Eupsenella* sp. nov. 18. 72. *Eupsenella* sp. nov. 19. 73. *Eupsenella* sp. nov. 20. 74. *Eupsenella* sp. nov. 21. (Escala = 300  $\mu$ m).

**Figuras 75–83. Mesossomo em vista dorsal.** 75. *Eupsenella* sp. nov. 22. 76. *Eupsenella* sp. nov. 23. 77. *Eupsenella* sp. nov. 24. 78. *Eupsenella* sp. nov. 25. 79. *Eupsenella* sp. nov. 26. 80. *Eupsenella* sp. nov. 27. 81. *Eupsenella* sp. nov. 28. 82. *Eupsenella* sp. nov. 29. 83. *Eupsenella* sp. nov. 30. (Escala = 300  $\mu$ m).

**Figuras 84–92. Mesossomo em vista dorsal.** 84. *Eupsenella* sp. nov. 31. 85. *Eupsenella* sp. nov. 32. 86. *Eupsenella* sp. nov. 33. 87. *Eupsenella* sp. nov. 34. 88. *Eupsenella* sp. nov. 35. 89. *Eupsenella* sp. nov. 36. 90. *Eupsenella* sp. nov. 37. 91. *Eupsenella* sp. nov. 38. 92. *E. agilis*. (Escala = 300  $\mu$ m).

**Figuras 93–102. Asa anterior direita.** 93. *E. ceciliae*. 94. *E. diemenensis*. 95. *E. flavifemorata*. 96. *E. insulana* female. 97. *E. insulana* male. 98. *E. reticulata*. 99. *Eupsenella* sp. nov. 1. 100. *Eupsenella* sp. nov. 2. 101. *Eupsenella* sp. nov. 3. 102. *Eupsenella* sp. nov. 4. (Escala = 300  $\mu$ m).

**Figuras 103–112. Asa anterior direita.** 103. *Eupsenella* sp. nov. 5. 104. *Eupsenella* sp. nov. 6. 105. *Eupsenella* sp. nov. 7. 106. *Eupsenella* sp. nov. 8. 107. *Eupsenella* sp. nov. 9. 108. *Eupsenella* sp. nov. 10. 109. *Eupsenella* sp. nov. 11. 110. *Eupsenella* sp. nov. 12. 111. *Eupsenella* sp. nov. 13. 112. *Eupsenella* sp. nov. 14. (Escala = 300  $\mu$ m).

**Figuras 113–122. Asa anterior direita.** 113. *Eupsenella* sp. nov. 15. 114. *Eupsenella* sp. nov. 16. 115. *Eupsenella* sp. nov. 17. 116. *Eupsenella* sp. nov. 18. 117. *Eupsenella* sp. nov. 19. 118. *Eupsenella* sp. nov. 20. 119. *Eupsenella* sp. nov. 21. 120. *Eupsenella* sp. nov. 22. 121. *Eupsenella* sp. nov. 23. 122. *Eupsenella* sp. nov. 24. (Escala = 300  $\mu$ m).

**Figuras 123–132. Asa anterior direita.** 123. *Eupsenella* sp. nov. 25. 124. *Eupsenella* sp. nov. 26. 125. *Eupsenella* sp. nov. 27. 126. *Eupsenella* sp. nov. 28. 127. *Eupsenella* sp. nov. 29. 128. *Eupsenella* sp.

nov. 30. **129.** *Eupsenella* sp. nov. 31. **130.** *Eupsenella* sp. nov. 32. **131.** *Eupsenella* sp. nov. 33. **132.** *Eupsenella* sp. nov. 34. (**Escala = 300 µm**).

**Figuras 133–137. Asa anterior direita.** **133.** *Eupsenella* sp. nov. 35. **134.** *Eupsenella* sp. nov. 36. **135.** *Eupsenella* sp. nov. 37. **136.** *Eupsenella* sp. nov. 38. **137.** *E. agilis*. (**Escala = 300 µm**).

**Figuras 138–144. Hipopégio do macho.** **138.** *E. insulana* macho. **139.** *Eupsenella* sp. nov. 1. **140.** *Eupsenella* sp. nov. 2. **141.** *Eupsenella* sp. nov. 3. **142.** *Eupsenella* sp. nov. 4. **143.** *Eupsenella* sp. nov. 5. **144.** *Eupsenella* sp. nov. 6. (**Escala = 300 µm**).

**Figuras 145–153. Genitália do macho.** **145–147** *E. insulana* macho; **145.** Vista ventral; **146.** Vista dorsal; **147.** Vista lateral. **148–150** *Eupsenella* sp. nov. 1; **148.** Vista ventral; **149.** Vista dorsal; **150.** Vista lateral. **151–153** *Eupsenella* sp. nov. 2; **151.** Vista ventral; **152.** Vista dorsal; **153.** Vista lateral. (**Escala = 250 µm**).

**Figuras 154–162. Genitália do macho.** **154–156** *Eupsenella* sp. nov. 3; **154.** Vista ventral; **155.** Vista dorsal; **156.** Vista lateral. **157–159** *Eupsenella* sp. nov. 4; **157.** Vista ventral; **158.** Vista dorsal; **159.** Vista lateral. **160–162** *Eupsenella* sp. nov. 5; **160.** Vista ventral; **161.** Vista dorsal; **162.** Vista lateral. (**Escala = 250 µm**).

**Figuras 163–165. Genitália do macho.** **163–165** *Eupsenella* sp. nov. 6; **163.** Vista ventral; **164.** Vista dorsal; **165.** Vista lateral. (**Escala = 250 µm**).

## Resumo

Foi revisado o gênero australiano *Eupsenella* Westwood, 1874 e foram reconhecidas 45 espécies, sete previamente descritas e 38 novas, que são descritas e ilustradas, seis delas baseadas exclusivamente em machos e 32 exclusivamente em fêmeas. Material adicional de *Eupsenella ceciliae* Terayama, 2004, *Eupsenella diemenensis* Dodd, 1916, *Eupsenella flavifemorata* Terayama, 2004, *Eupsenella insulana* Gordh & Harris, 1996 e *Eupsenella reticulata* Terayama, 2004 tiveram suas variações morfológicas e registros de distribuição conhecida ampliada. São fornecidas chaves para as espécies da região Australiana baseadas em machos e fêmeas.

## Abstract

The Australian genus *Eupsenella* Westwood, 1874 is revised. and 45 species are recognized, seven previously described and 38 new, which are described and illustrated, six of them are based exclusively on males and 32 exclusively on females. Additional material of *Eupsenella ceciliae* Terayama, 2004, *Eupsenella diemenensis* Dodd, 1916, *Eupsenella flavifemorata* Terayama, 2004, *Eupsenella insulana* Gordh & Harris, 1996 and *Eupsenella reticulata* Terayama, 2004 had their taxonomical variations and known distribution broadened. Keys to species of Australian region based on males and females are provided.

## Apresentação

Organizar as informações disponíveis para a família, subfamílias e gêneros de Bethyridae vem sendo o maior desafio dos especialistas nesse grupo durante os anos. Até o momento nenhum trabalho de revisão foi proposto para *Eupsenella*. É notório que a caracterização original proposta por Westwood (1874) para o gênero é bastante curta para a delimitação acurada do gênero e carece de reavaliações e aprimoramento dos caracteres que o delimitam. Gordh & Harris (1996) mencionaram esse aspecto como fator responsável por dificultar a identificação de *Eupsenella* de modo geral, já que a taxonomia do gênero é pouco conhecida.

Os hospedeiros do gênero permanecem pouco conhecidos. Riek (1970) indicou que as espécies de *Eupsenella* parasitam larvas de Lepidoptera, mas estas evidências mostraram-se ainda pouco consistentes.

*Eupsenella* é endêmico da região Australiana. As únicas espécies conhecidas tanto para a Austrália quanto Nova Zelândia são: *Eupsenella diemenensis* Dodd e a partir deste estudo *Eupsenella insulana* Gordh & Harris.

O estudo que segue representa a proposta que objetivou reconhecer e definir as espécies de *Eupsenella* registradas para a região Australiana, além de ampliar e aprimorar os caracteres responsáveis por delimitar o gênero. Além disso, fornecer pela primeira vez chaves de identificação para as espécies da região Australiana baseadas em espécimes macho e fêmea. Para a realização do trabalho, holótipos foram requisitados a museus. A única espécie solicitada e enviada por empréstimo prontamente foi *Eupsenella insulana* Gordh & Harris. Para contornar essa situação foram solicitadas fotos de interesse taxonômico dos holótipos. Gentilmente, Peter Hudson, curador do South Australian Museum (SAMA) enviou as fotos solicitadas de *Eupsenella diemenensis* Dodd, *E. ceciliae* Terayama, *E. flavifemorata* e *E. reticulata* Terayama. Por outro lado, o mesmo não foi possível para *E. agilis* Westwood e *E. proxima* Kieffer. Diante deste cenário as mesmas foram analisadas com base na literatura.

O manuscrito referente à revisão de *Eupsenella* segue as normas estipuladas pelo periódico *Zootaxa*.

### Referências bibliográficas

- Gordh, G. & Harris, A. (1996) New records and a new species of *Eupsenella* (Hymenoptera: Bethylidae) in New Zealand. *Journal of The Royal Society of New Zealand, Volume 26*, 1996, 529–536.
- Riek, E.F. (1970) Hymenoptera, pp. 867–959. In: CSIRO, The Insects of Australia. *Melbourne University Press*, Melbourne.
- Terayama, M. (2004) Descriptions of New Taxa and Distribution Records of the Family Bethylidae (Insecta, Hymenoptera) II. Subfamily Bethylinae and Fossil Taxa. ACADEMIC REPORTS Faculty Engineering. *Tokyo Polytechnic University*. Vol. 27 No.1 (2004), 39–41.
- Westwood, J.O. (1874) Thesaurus Entomologicus Oxoniensis. *Clarendon Press, Oxford* 4: 1–205, 40 plates.



## Revision of *Eupsenella* Westwood (Hymenoptera, Bethylidae)

### Abstract

The Australian genus *Eupsenella* Westwood, 1874 is revised. and 45 species are recognized, seven previously described and 38 new, which are described and illustrated, six of them are based exclusively on males and 32 exclusively on females. Additional material of *Eupsenella ceciliae* Terayama, 2004, *Eupsenella diemenensis* Dodd, 1916, *Eupsenella flavifemorata* Terayama, 2004, *Eupsenella insulana* Gordh & Harris, 1996 and *Eupsenella reticulata* Terayama, 2004 had their taxonomical variations and known distribution broadened. Keys to species of Australian region based on males and females are provided.

**Key words.** Chrysidoidea, Bethylinae; Australian region.

### 1. Introduction

*Eupsenella* Westwood, 1874 is hitherto composed of seven species, being type species of the genus *Eupsenella agilis* Westwood, 1874. This genus is restricted to the Australian region. The most distinctive feature of *Eupsenella* is the forewing with six closed cells in the forewing, being the second radial 1 (2R1), first radial 1 (1R1) and first medial (1M) cells closed. *Lytopsenella* Kieffer is the only genus in Bethylidae with this condition. However in *Eupsenella* the second radial 1 cell is short, slightly higher than first radial 1, whereas in *Lytopsenella* it is elongate, reaching about  $2.0 \times$  first radial 1. Other features of *Eupsenella* include the presence of notauli and parapsidal sutures, 13-segmented antenna and incipient anal vein in hind wing.

The taxonomy remains poorly known. Since the original description of *Eupsenella* it lasted thirty-seven years for the second species *E. proxima* to be described by Kieffer (1911). The other five species are *E. diemensis* Dodd, 1916, *E. insulana* Gordh & Harris, 1996, Terayama, 2004 *E. ceciliae* Terayama, 2004, *E. flavifemorata* Terayama, 2004 and *E. reticulata* Terayama, 2004. Most of this species are known from a small series of specimens.

Riek (1970) indicated that *Eupsenella* species attacks Lepidoptera larvae but evidence has been weak. According to Gordh & Harris (1996) the discovery of hosts of the *Eupsenella* is noteworthy consistent with the host and records of most other Bethylinae which attack moth larvae.

The main goal of the current paper is recognize, define and describe the species of *Eupsenella*. In addition, to redefine the diagnostic characteristics of the genus as well as provide for the first time a key to species of Australian region based on both males and females.

## 2. Material and methods

### *Biological material*

The material was provided by the following institutions: ANIC, Australian National Insect Collection, Canberra, Australia (Nicole Fisher); HNHM, Hungarian Natural of History Museum, Budapest (Sándor Csősz); NZAC, New Zealand Arthropod Collection, Auckland, New Zealand (Darren Ward); SAMA, South Australian Museum, North Terrace, Adelaide, Australia (Peter Hudson).

The specimens studied here were interpreted by direct observation of specimens, photographs or illustration of holotypes and descriptions present in the literature.

### *Taxonomic treatment*

The terms of body structures, measurements and indices used in this study follows Evans (1964), Azevedo (1999) and Mikó et al. (2007). The integument sculpture follows Harris (1979). The nomenclature of wings was interpreted as in Huber & Sharkey (1993) except for 2R1 cell called by such authors as first radial 2. The nomenclature of this cell follows the nomenclature proposed by Comstock & Needham (1898–1899) and it is here treated as second radial 1. According to the literature adopted, it was observed that some of the forewing veins such as Rs vein, Cu vein, and R1 vein are distributed in different parts of the wing without any distinction as the region being analyzed. As a result, these veins will be mentioned in this work into sectors to facilitate understanding of what portion of a particular vein is being mentioned. The acronyms adopted for each of the regions follows in parentheses. Thus, these veins are referred here as follows: first section of Rs vein (Rsa), second section of Rs vein (Rsb),

third section of Rs vein (Rsc); first section of Cu vein (Cua), second section of Cu vein (Cub); first section of R1 vein (R1a), second section of R1 vein (R1b) (metacarpo in sense Evans 1964) (Fig. 2).

The abbreviations and measurements used in this study are as follows: body length - from the apex of clypeus to the posterior margin of the last metasomal segment, excluding the male genitalia or the female sting; (LH) length of head in dorsal view - from the vertex crest to the median apical margin of clypeus; (WH) width of head in dorsal view - maximum width including eyes; (WF) width of frons in dorsal view - minimum width usually at a virtual line that crosses the anterior margin of compound eyes; (HE) height of eye in lateral view - across its maximum height (length); (OOL) ocellar-ocular line in laterodorsal view - the shortest distance from posterior margin of compound eye to posterior ocellus; (WOT) width of ocellar triangle in dorsal view - maximum width, including the ocelli; (DAO) diameter of anterior ocellus in dorsal view; (VOL) vertex-ocular line in dorsal view, distance from eye top to vertex crest; (LFW) length of forewing in dorsal view.

The descriptions were performed with the software DELTA (Descriptive Language for Taxonomy) developed by Dallwitz (1980) and Dallwitz *et al.* (1999). Images were captured using the extended-focus system EntoVision (GTVision, Hagerstown, Maryland), including a Leica MZ16 zoom lens attached to a JVC KY-75U 3-CCD digital video camera that feeds image data to a desktop computer. The captured stacks were exported and combined in a single in-focus image using Helicon Focus ® v5.2.16 and later edited in Adobe Photoshop®.

The illustrations of genitalia of each species were based on the holotype. The genitalia were diaphanized with a solution of potassium hydroxide (KOH) 10%.

#### *List of characters analyzed*

1. **Body length:** expressed in millimeters.
2. **Length of forewing (LFW):** expressed in millimeters.
3. **Color of head:** light castaneous; dark castaneous; dark castaneous almost black; greenish; dark brown.
4. **Color of scape:** light castaneous; castaneous; dark castaneous.
5. **Color of pedicel:** light castaneous; castaneous; dark castaneous.
6. **Color of flagellum:** light castaneous; castaneous; dark castaneous.

- 7. Color of mandible:** light castaneous; castaneous; dark castaneous; light castaneous with teeth dark castaneous; castaneous with teeth dark castaneous.
- 8. Color of palpi:** light castaneous; castaneous.
- 9. Color of mesosoma:** dark castaneous; dark castaneous almost black; greenish; dark brown.
- 10. Color of tegula:** light castaneous; castaneous; dark castaneous.
- 11. Color of wing venation:** light castaneous; castaneous; dark castaneous; predominantly light castaneous with veins darkening apicad.
- 12. Color of procoxa:** light castaneous; castaneous; dark castaneous; dark castaneous almost black.
- 13. Color of mesocoxa:** light castaneous; castaneous; dark castaneous; dark castaneous almost black.
- 14. Color of metacoxa:** light castaneous; castaneous; dark castaneous; dark castaneous almost black.
- 15. Color of trochanters:** light castaneous; castaneous; dark castaneous.
- 16. Color of profemur:** light castaneous; castaneous; dark castaneous; dark castaneous almost black.
- 17. Color of mesofemur:** light castaneous; castaneous; dark castaneous; dark castaneous almost black.
- 18. Color of metafemur:** light castaneous; castaneous; dark castaneous; dark castaneous almost black.
- 19. Color of tarsi:** light castaneous; castaneous; dark castaneous.
- 20. Color of metasoma:** light castaneous; castaneous; dark castaneous; dark castaneous almost black; dark castaneous with light castaneous portions along its length; dark castaneous with last tergite light castaneous.
- 21. Head in dorsal view:** longer than wide; as long as wide; wider than long.
- 22. Shape of head in profile:** subtriangular; globoid; subrectangular.
- 23. Shape of gena in profile:** strongly concave; weakly concave; without concavity.
- 24. Width of mandible:** evenly wide; with base wider than apex.
- 25. Relative size of mandibular teeth:** lowermost tooth larger than upper ones; two lowermost teeth larger than upper ones; teeth sub-equal.
- 26. Orientation of lower tooth of mandible:** lower tooth curved inward; lower tooth curved outward.
- 27. Setae of lower margin of mandible:** lower margin strongly setose; lower margin weakly setose.
- 28. Texture of clypeus:** coriaceous; polished; imbricate; coriaceous-punctate.
- 29. Shape of median clypeal lobe:** truncate; broadly truncate; angulate; subangulate; broadly rounded.
- 30. Presence of concavity of median clypeal lobe:** median concavity of median clypeal lobe present; median concavity of median clypeal lobe absent.
- 31. Projection of median clypeal lobe:** slightly projected,  $\leq 0.05 \times LH$ ; projected,  $> 0.05 \times LH$ .

- 32. Demarkation between median clypeal lobe and frons:** well marked off; badly marked off.
- 33. Presence of median carina of clypeus:** present; absent.
- 34. Length of median carina of clypeus:** short,  $\leq 0.15 \times LH$ ; long,  $> 0.15 \times LH$ .
- 35. Conspicuity of malar space:** inconspicuous, when almost touching lower margin of eye; conspicuous, when as wide as base of mandible.
- 36. Width of malar space:** wide,  $> 0.18 \times$  mandibular base; narrow,  $\leq 0.18 \times$  mandibular base.
- 37. Length of antenna:** expressed in millimeters.
- 38. Ratio of first five antennomeres.**
- 39. Flagellomere I:**  $\times$  longer than wide.
- 40. Density of flagellar pubescence:** sparse; dense.
- 41. Presence of outstanding setae in the flagellar pubescence:** with many outstanding erect setae; with few outstanding erect setae.
- 42. Shape of region between antennal torulus and anterior margin of eye:** straight; concave; slightly concave; angulate medially.
- 43. Length of area between anterior margin of eye and demarkation of median clypeal lobe:** long,  $> 0.15 \times LH$ ; short,  $\leq 0.15 \times LH$ .
- 44. Salience of eye:** not protuberant; protuberant.
- 45. Size of eye:** large,  $> 0.50 \times LH$ ; small,  $\leq 0.50 \times LH$ .
- 46. Density of pilosity of eye:** with dense hairs; with sparse hairs.
- 47. Position of eye in dorsal view:** located more dorsally; located more laterally.
- 48. Shape of lower margin of eye:** with strong depression; without strong depression.
- 49. Texture of frons:** strongly coriaceous-punctate; coriaceous-punctate; polished.
- 50. Width of head:**  $\times LH$ .
- 51. Width of Front:**  $\times WH$ .
- 52. WF:**  $\times HE$ .
- 53. Ocello-ocular line:**  $\times WOT$ .
- 54. Vertex-ocular line:**  $\times HE$ .
- 55. Distance from posterior ocellus to vertex crest:**  $\times DAO$ .
- 56. Width of ocelli:** small,  $DAO \leq 0.1 \times WF$ ; large,  $DAO > 0.1 \times WF$ .
- 57. Ocellar triangle:** compact, distance between posterior ocelli  $\leq 1.1 \times DAO$ ; not compact, distance between posterior ocelli  $> 1.1 \times DAO$ .

- 58. Anterior ocellus (position related to posterior top of eye):** not surpassing imaginary top eye line; surpassing imaginary top eye line.
- 59. Place of posterior ocellus:** almost reaching vertex; reaching vertex; distant from vertex.
- 60. Shape of vertex crest in dorsal view:** straight; concave; strongly concave; slightly concave; convex.
- 61. Length of setae of vertex:** short,  $\leq 0.15 \times LH$ ; long,  $> 0.15 \times LH$ .
- 62. Orientation of temple profile in dorsal view:** approximately parallel; slightly convergent.
- 63. Shape of corner of temple profile:** with corner angulate; with corner convex.
- 64. Projection of corner of temple profile:** not projected postero-laterad; slightly projected postero-laterad.
- 65. Shape of hipostomal carina:** angulate; arched; straight; sinuous; slightly arched.
- 66. Height of hipostomal carina:** high, when strongly elevated; low, when weakly elevated.
- 67. Texture of pronotal disc:** polished; confused-rugulose; coriaceous-punctate.
- 68. Relative size of pronotal disc:** long, length of disc  $> 0.60 \times$  greatest width of disc; short, length of disc  $\leq 0.60 \times$  greatest width of disc.
- 69. Shape of anterior corner of pronotal disc:** rounded; angulate.
- 70. Shape of posterior margin of pronotal disc:** concave medially; strongly concave medially; almost straight.
- 71. Presence of longitudinal furrow in anterior margin of pronotal disc:** pronotal disc with short longitudinal furrow; pronotal disc without short longitudinal furrow.
- 72. Conspicuity of parapsidal furrow of pronotal disc:** inconspicuous; conspicuous only at third posterior part; wholly conspicuous.
- 73. Orientation of notauli:** parallel to each other; convergent posterad.
- 74. Size of mesoscutum:** small,  $\leq 0.55 \times$  length pronotal disc; large,  $> 0.55 \times$  length pronotal disc.
- 75. Texture of scutellum:** polished; coriaceous; coriaceous-punctate.
- 76. Length of scutellum:** short,  $\leq 0.60 \times$  length pronotal disc; long, more than  $> 0.60 \times$  length pronotal disc.
- 77. Shape of scutellum in profile:** convex; almost flat.
- 78. Shape posterior margin of scutellum:** posterior margin convex medially; posterior margin almost straight medially.
- 79. Shape of scutellar pit:** elliptical; almost circular.

- 80. Dilation of scutellar pit:** dilated; narrowed.
- 81. Distance between foveae of scutellum:**  $\times$  its own diameter.
- 82. Shape of dorsal axillar surface:** with fovea almost circular; with fovea subrectangular; with fovea oval.
- 83. Height of median region of metanotum:** with median region almost flat; with median region high.
- 84. Texture of metanotum:** coriaceous-punctulate; foveolate.
- 85. Level of metanotum:** lower than scutellum in profile; as high as scutellum in profile.
- 86. Shape of fovea:** with fovea oval laterally; with fovea elliptical laterally.
- 87. Length of propodeal disc:** wider than long; as long as wide.
- 88. Presence of foveolate transverse furrow of propodeal disc:** anterior margin without foveolate or transverse furrow; anterior margin of propodeal disc with a foveolate transverse furrow, dilated ends; anterior margin of propodeal disc with a transverse furrow, dilated ends.
- 89. Length of median carina of propodeal disc:** short,  $\leq 0.50 \times$  length propodeal disc; long,  $> 0.50 \times$  length propodeal disc.
- 90. Extension of median carina of propodeal disc:** incomplete posterad; complete posterad.
- 91. Length of discal carina of propodeal disc:** short,  $\leq 0.49 \times$  length propodeal disc; long,  $> 0.49 \times$  length propodeal disc.
- 92. Orientation of discal carina of propodeal disc:** parallel to median carina; converging posterad.
- 93. Shape of discal carina of propodeal disc:** slightly arched; straight.
- 94. Texture of space between median and discal carina of propodeal disc:** imbricate and confused-rugulose; confused-rugulose; almost polished and smooth.
- 95. Shape of subtegular furrow:** oval; elliptical.
- 96. Mesepimeral suture:** almost inconspicuous posteriorad; wholly conspicuous.
- 97. Conspicuity of mesopleural epicoxal lobe:** conspicuous; inconspicuous.
- 98. Presence in propleuron of sequence foveae from anterior margin of prosternum until cervical collar:** present; absent.
- 99. Extension of excavation of prosternum:** complete; restricted to posterior region.
- 100. Presence of median suture of prosternum:** present; absent.
- 101. Shape of posterior depression of mesopectus:** heart-shaped; composed by two large foveae almost fused.
- 102. Median suture of mesopectus:** evident; not evident.

- 103. Degree of development of wings:** brachypterous; macropterous.
- 104. Shape of 1M cell of forewing:** subpentagonal; subrectangular; subtriangular.
- 105. First medial and first radial 1 (1R1) cells of forewing:** aligned basally; not aligned basally.
- 106. Width of Costal cell:** evenly narrow; widening distally.
- 107. Presence of 1R1 cell of forewing:** absent; present.
- 108. Relative size of 1R1 cell of forewing:** distinctly longer than 2R1 cell; slightly longer than 2R1 cell.
- 109. Width of 1R1 cell of forewing:** evenly wide; wider medially.
- 110. Shape of Rsb of first radial 1 cell:** straight; convex.
- 111. Length of 2R1 cell of forewing:** short,  $\leq 0.13 \times \text{LFW}$ ; long,  $> 0.13 \times \text{LFW}$ .
- 112. Shape of distal margin of Rsc of forewing:** convex; angulate; strongly convex.
- 113. Orientation of r-rs vein of forewing:** almost vertical; inclined; strongly inclined.
- 114. Position of R1b vein:** entirely on anterior margin of forewing; arching distally.
- 115. Presence of Cub of forewing:** absent, present.
- 116. Length of Rs+M vein of forewing:** short,  $0.45 \times \text{first Rsa}$ ; long,  $> 0.45 \times \text{Rsa}$ .
- 117. Length of M vein of forewing:**  $\times \text{Rsa}$ .
- 118. Orientation of Rsa of forewing:** slightly inclined toward tegula; subperpendicular to anterior margin of forewing.
- 119. Shape of stigma of forewing:** rectangular; triangular.
- 120. Shape of distal stigmal margin:** truncate; convex.
- 121. Number of distal hamuli of hind wing:** four distal hamuli; five distal hamuli; seven distal hamuli.
- 122. Position of last hamulus of hind wing:** discontinuous each other; adjacent each other.
- 123. Shape of profemur:** swollen,  $\leq 0.60 \times \text{as wide as long}$ ; very swollen,  $> 0.60 \times \text{as wide as long}$ .
- 124. Relative size of median region of metacoxa:**  $\times \text{as wide as long}$ .
- 125. Conspicuity of metacoxal projection in dorsal region:** conspicuous; inconspicuous.
- 126. Shape of apex of metacoxal projection:** apex rounded; apex sharpened.
- 127. Relative size of metasoma:**  $\times \text{as wide as long}$ .
- 128. Shape of posterior margin of hypopygium:** strongly angulate; weakly angulate.
- 129. Shape of teeth of posterior margin:** straight; arched.
- 130. Proximity of teeth of hypopygium:** teeth closed each other; teeth distant each other.
- 131. Thickness of teeth of hypopygium:** narrowing apicad; almost evenly thick.



- 132. Presence of lateral stalk of hypopygium:** present, but almost vestigial; present, but short; present and long.
- 133. Type of parameres of male genitalia:** paramere simple, when one pair of parameres; paramere double, when two pairs of parameres originating independently from basiparamere.
- 134. Presence of concavity in apical margin of paramere:** apical margin in lateral view without concavity; apical margin in lateral view with weak concavity.
- 135. Position of angulation of inner margin of ventral arm in lateral view:** inner margin of ventral arm angulate medially; inner margin of ventral arm angulate basally; inner margin of ventral arm not angulate.
- 136. Angulation of basiparamere in the apical margin:** slightly angulate medially; strongly angulate medially; not angulate.
- 137. Height of volsella:** not surpassing aedeagus apex; aligned with aedeagus apex.
- 138. Length of cuspis:** short,  $0.25 \times$  length of apical lobe of aedeagus; long,  $>0.25 \times$  length of apical lobe of aedeagus.
- 139. Width of cuspis:** wide,  $>1.0 \times$  width of apical lobe of aedeagus; narrow,  $\leq 1.0 \times$  width of apical lobe of aedeagus.
- 140. Length of digitus:** short,  $\leq 0.40 \times$  length of apical lobe of aedeagus; long,  $>0.40 \times$  length of apical lobe of aedeagus.
- 141. Type of upper surface of digitus:** upper surface spinose; upper surface not spinose.
- 142. Relative size of median region of aedeagus:** median region wider than base; median region as wide as base.
- 143. Length of apical lobe of aedeagus:** short,  $<0.40 \times$  length of aedeagus; long,  $\geq 0.40 \times$  length of aedeagus.
- 144. Fold of inner margin in the apical lobe of aedeagus:** fold of inner margin present; fold of inner margin absent.
- 145. Shape of apex of apical lobe of aedeagus:** straight; rounded.
- 146. Height of apex of apical lobe of aedeagus:** apex aligned with paramere apex; apex not aligned with paramere apex.

### 3. Results

In this study 45 species are recognized for Australia and New Zealand, seven previously described and 38 considered as new species.

#### *Key to Eupsenella*

#### Males

1. Apical lobe of aedeagus short,  $\geq 0.40 \times$  length of aedeagus; (Figs 154–156, 157–159) ..... **2**
  - Apical lobe of aedeagus long,  $< 0.40 \times$  length of aedeagus (Figs 145–147, 148–150, 151–153, 160–162, 163–165) ..... **3**
2. Area between the anterior margin of eyes and demarkation of median clypeal lobe short,  $\leq 0.15 \times$  LH; genitalia with paramere simple (Figs 11, 154–156) ..... ***Eupsenella* sp. nov. 3**
  - Area between the anterior margin of eyes and demarkation of median clypeal lobe long,  $> 0.15 \times$  LH; genitalia with paramere double (Figs 12, 157–159) ..... ***Eupsenella* sp. nov. 4**
3. Median clypeal lobe without median carina and truncate (Fig. 10); pronotal disc with longitudinal furrow (Fig. 55); teeth of posterior margin of hypopygium arched (Fig. 140); apical margin of basiparamere with strong angulation medially (Fig. 151) ..... ***Eupsenella* sp. nov. 2**
  - Median clypeal lobe with median carina and angulate (Figs 7, 9, 13, 14); pronotal disc without longitudinal furrow (Figs 52, 54, 58, 59); teeth of posterior margin of hypopygium straight (Figs 138, 139, 144); apical margin of basiparamere without strong angulation medially (Figs 145, 148, 163) ..... **4**
4. Teeth of posterior margin of hypopygium very close and thin (Fig. 138) ..... ***Eupsenella insulana* Gordh & Harris**
  - Teeth of posterior margin of hypopygium far and thick (Figs 139, 144) ..... **5**
5. Median region of aedeagus clearly wider than basal region (Figs 148, 149) .... ***Eupsenella* sp. nov. 1**
  - Median region of aedeagus approximately as wide as basal region or smaller than basal region (Figs 161, 163) ..... **6**
6. Outer margin of digitus spinose (Fig. 163); inner margin of apical lobe of aedeagus with fold in the inner margin (Fig. 163) ..... ***Eupsenella* sp. nov. 6**

- Outer margin of digitus smooth (Fig. 160); inner margin of apical lobe of aedeagus without fold in the inner margin (Fig. 160) ..... *Eupsenella* sp. nov. 5

## Females

1. Brachypterous (Figs 130–131) ..... 2
  - Macropterous (Figs 93–129, 132–137) ..... 3
2. 1R1 cell of forewing open (Fig. 130); 1M cell of forewing absent (Fig. 12) .... *Eupsenella* sp. nov. 32
  - 1R1 cell of forewing closed (Fig. 132); first medial cell (1M) of forewing present (Fig. 132) ..... *Eupsenella* sp. nov. 33
3. Cua of forewing aligned basally with Rsb (Figs 98, 109, 117, 124) ..... 4
  - Cua of forewing not aligned basally with Rsb (Figs 93, 94, 134, 136) ..... 7
4. Posterior ocelli large; ocelli close to each other (Figs 27, 34) ..... 5
  - Posterior ocelli small; ocelli far each other (Figs 8, 11) ..... 6
5. Pronotal disc very short (Fig. 72); anterior margin of pronotal disc anteriorly convex (Fig. 72); notauli clearly parallel to each other (Fig. 72); C cell widening distally (Fig. 117) ..... *Eupsenella* sp. nov. 19
  - Pronotal disc short (Fig. 79); anterior margin of pronotal disc straight (Fig. 79); notauli strongly convergent posterad (Fig. 79); C cell of forewing not widening only distally (Fig. 124) ..... *Eupsenella* sp. nov. 26
6. Vertex crest slightly convex (Fig. 8); discal carina of propodeal disc not convergent posterad (Fig. 53); propodeal disc strongly reticulate (Fig. 53) ..... *Eupsenella reticulata* Terayama
  - Vertex crest straight (Fig. 19); discal carina of propodeal disc convergent posterad (Fig. 64); propodeal disc weakly reticulate (Fig. 64) ..... *Eupsenella* sp. nov. 11
7. Vertex crest convex or concave (Figs 3, 5, 6, 44, 45, 46) ..... 8
  - Vertex crest straight (Figs 17, 24, 39) ..... 20
8. Vertex crest concave (Figs 3, 44, 46) ..... 9
  - Vertex crest convex (Figs 4, 6, 15, 45) ..... 11
9. Median clypeal lobe angulate (Fig. 46) ..... *Eupsenella* sp. nov. 38
  - Median clypeal lobe broadly rounded (Fig. 3) ..... 10
10. Region between anterior margin of eye and antennal torulus not angulate (Fig. 3); C cell of forewing almost entirely conspicuous along its length (Fig. 93) ..... *Eupsenella ceciliae* Terayama

- Region between anterior margin of eye and antennal torulus angulate (Fig. 44); C cell of forewing inconspicuous, almost absent, along its length (Fig. 134) ..... ***Eupsenella* sp. nov. 36**
- 11. C cell of forewing almost completely inconspicuous (Figs 94, 96) ..... **12**
- C cell of forewing completely conspicuous or at least widening distally (Figs 105, 121, 135) ..... **13**
- 12. R1*b* entirely on anterior margin of forewing (Fig. 94); vertex crest with short setae (Fig. 4) ..... ***Eupsenella diemenensis* Dodd**
- R1*b* arching distally into forewing (Fig. 96); vertex crest with long setae (Fig. 6) ..... ***Eupsenella insulana* Gordh & Harris**
- 13. Pronotal disc with deep median pit anteriorly (Fig. 60); median clypeal lobe truncate (Fig. 15) ..... ***Eupsenella* sp. nov. 7**
- Pronotal disc without deep median pit anteriorly (Figs 50, 66, 76, 83, 90); median clypeal lobe angulate or slightly subangulate (Figs 5, 21, 31, 38) ..... **14**
- 14. Head subcircular in dorsal view (Fig. 45); ocelli widely separated (Fig. 45); vertex crest slightly angulate medially; (Fig. 45); pronotal disc very short; pronotal disc narrowed anteriorly (Fig. 90) ..... ***Eupsenella* sp. nov. 37**
- Head subtriangular in dorsal view (Figs 5, 31, 38); ocelli not widely separated (Figs 5, 31, 38); vertex not angulate medially; (Figs 5, 31, 38); pronotal disc not very short; pronotal disc not narrowed anteriorly (Figs 50, 66, 76, 83) ..... **15**
- 15. Median clypeal lobe truncate medially; median clypeal lobe long and broad (Fig. 31); frons without median carina (Fig. 31) ..... ***Eupsenella* sp. nov. 23**
- Median clypeal lobe angulate medially; median clypeal lobe short and not broad (Figs 5, 35, 36, 38); frons with median carina (Figs 5, 35, 36, 38) ..... **16**
- 16. Ocelli small; posterior ocelli clearly distant from vertex crest (Fig. 5) ..... ***Eupsenella flavifemorata* Terayama**
- Ocelli large; posterior ocelli clearly near vertex crest (Figs 35, 36, 38) ..... **17**
- 17. Head longer than wide (Figs 21, 38) ..... **18**
- Head wider than long (Figs 35, 36) ..... **19**
- 18. Eye small; eye with few setae (Fig. 21); region between top of eye and crest of vertex clearly convex (Fig. 21); anterior margin of pronotal disc clearly straight (Fig. 66) ..... ***Eupsenella* sp. nov. 13**
- Eye large; eye densely hairy (Fig. 38); region between top of eye and crest of vertex almost straight (Fig. 38); anterior margin of pronotal disc convex (Fig. 83) ..... ***Eupsenella* sp. nov. 30**

19. Median carina of frons low; median carina of frons almost straight in profile (Fig. 35)	<i>Eupsenella</i> sp. nov. 27
- Median carina of frons strongly elevated; median carina of frons convex in profile (Fig. 36)	<i>Eupsenella</i> sp. nov. 28
20. Eye located more dorsally (Fig. 17); ocelli triangle compact (Fig. 17)	<i>Eupsenella</i> sp. nov. 9
- Eye located more laterally (Figs 16, 20, 39); ocelli triangle not compact (Figs 16, 20, 39)	21
21. Vertex crest strongly narrow medially (Fig. 39)	<i>Eupsenella</i> sp. nov. 31
- Vertex crest strongly not narrow medially (Figs 16, 20)	22
22. Median clypeal lobe truncate (Fig. 16)	<i>Eupsenella</i> sp. nov. 8
- Median clypeal lobe angulate/subangulate (Figs 20, 32)	23
23. Median clypeal lobe without median carina (Fig. 20)	<i>Eupsenella</i> sp. nov. 12
- Median clypeal lobe with median carina (Figs 18, 26, 30, 32, 37)	24
24. Posterior margin of pronotal disc regularly concave medially (Fig. 77); median carina of propodeal disc less than half length of propodeal disc (Fig. 77)	<i>Eupsenella</i> sp. nov. 24
- Posterior margin of pronotal disc strongly concave medially (Figs 63, 71, 75, 82); median carina equal or longer than half length of propodeal disc (Figs 62, 70, 74, 81)	25
25. 1R1 cell of forewing slightly longer than 2R1 cell (Fig. 137)	<i>Eupsenella agilis</i> Westwood
- 1R1 cell of forewing distinctly longer than 2R1 cell (Figs 108, 112, 115)	26
26. Rsa of forewing almost vertical (Figs 108, 116, 120, 127)	27
- Rsa of forewing inclined (Figs 112, 118, 132)	30
27. Region between top of eye and vertex crest almost angulate (Figs 18, 26)	28
- Region between top of eye and vertex crest convex (Figs 30, 37)	29
28. C cell of forewing almost inconspicuous (Fig. 118)	<i>Eupsenella</i> sp. nov. 18
- C cell of forewing conspicuous only distally (Fig. 108)	<i>Eupsenella</i> sp. nov. 10
29. Median carina of propodeal disc short (Fig. 82); median carina of propodeal disc located within a furrow (Fig. 82); propodeal disc smooth (Fig. 82)	<i>Eupsenella</i> sp. nov. 29
- Median carina of propodeal disc short long (Fig. 75); median carina of propodeal disc not located within a furrow (Fig. 75); propodeal disc slightly rugulose (Fig. 75)	<i>Eupsenella</i> sp. nov. 22
30. Ocelli touching vertex crest (Figs 22, 25, 28)	31
- Ocelli not touching vertex crest (Figs 24, 32, 43)	34
31. Eye densely setose (Figs 22, 25)	32

- Eye with few setae (Figs 28, 42) .....	33
32. Median carina at frons high (Fig. 22); eye protuberant (Fig. 22) .....	<i>Eupsenella</i> sp. nov. 14
- Median carina at frons low (Fig. 25); eye slightly protuberant (Fig. 25) .....	<i>Eupsenella</i> sp. nov. 17
33. Ocelli clearly very far each other (Fig. 28); <i>Rsb</i> of forewing almost straight (Fig. 118); discal carina of propodeal disc conspicuous (Fig. 74) .....	<i>Eupsenella</i> sp. nov. 20
- Ocelli not too far each other (Fig. 42); <i>Rsb</i> of forewing convex (Fig. 132); discal carina of propodeal disc inconspicuous (Fig. 87) .....	<i>Eupsenella</i> sp. nov. 34
34. Notauli approximately parallel to each other (Figs 78, 88) .....	35
- Notauli convergent posterad to each other (Figs 69, 89) .....	36
35. Notauli closed to each other (Fig. 78) .....	<i>Eupsenella</i> sp. nov. 25
- Notauli distant from each other (Fig. 88) .....	<i>Eupsenella</i> sp. nov. 35
36. <i>r-rs</i> vein of forewing almost vertical .....	<i>Eupsenella proxima</i> Kieffer
- <i>r-rs</i> vein of forewing almost horizontal .....	37
37. <i>C</i> cell of forewing evident along almost its entire length (Fig. 114); <i>1M</i> cell of forewing almost triangular (Fig. 114); <i>Cub</i> of forewing conspicuous (Fig. 114) .....	<i>Eupsenella</i> sp. nov. 16
- <i>C</i> cell of forewing almost inconspicuous among its entire length (Figs 113, 119); <i>1M</i> cell subpentagonal (Figs 113, 119); <i>Cub</i> of forewing inconspicuous (Figs 113, 119) .....	38
38. Pronotal disc very short (Fig. 74); <i>Rsb</i> of forewing convex (Fig. 119); <i>R1b</i> of forewing arching into forewing posterad (Fig. 119) .....	<i>Eupsenella</i> sp. nov. 21
- Pronotal disc short (Fig. 68); <i>Rsb</i> of forewing almost straight (Fig. 113); <i>R1b</i> of forewing entirely on anterior margin of forewing (Fig. 113) .....	<i>Eupsenella</i> sp. nov. 15

### *Taxonomy*

#### ***Eupsenella* Westwood, 1874**

**Diagnosis.** Median clypeal lobe truncate, angulate or subangulate, median carina present or absent, extending back into frons. Lateral lobe of clypeus almost inconspicuous. Mandible with four sharpened apical teeth. Antenna with 13 articles; flagellar pubescence suberect. Torulus not projected. Hipostomal carina present and well defined. Pronotal collar regular-sized, evenly narrow. Notauli present, well defined, complete, extending from anterior margin of the posterior margin of mesoscutum. Scutellar pit

present. Scutellar furrow absent. Propodeal disc with median carina, posterior transverse carina absent and lateral carina present, followed by depressed narrow area, foveolate. Declivity of propodeum without median carina. Mesopleuron with mesopleural pit deep. Prosternum expanded, 0.7 to 1.0 × area of procoxa and excavated medially. Mesofurcal pit present. Metasoma in ventral view with ventral carina of petiole. Forewing with six closed cells, (R, 1Cu, C, 1M, 1R1 and 2R1), except in brachypterous species, stigma regular-sized, except in brachypterous species. Hind wing with incipient anal vein and jugal lobe, hamuli located approximately medially on anterior margin. Male slightly smaller than female. Hypopygium puncticulate, with posterior margin bidentate and angulate. Genitalia with one or two parameres, paramere not fused to basiparamere; dorsal arm of paramere as long as ventral arm; apical lobe of aedeagus expanded; apex of apical lobe of aedeagus; not aligned with paramere apex; apical margin of cuspis rounded.

***Eupsenella agilis* Westwood, 1874**

(Figs 47, 92, 137)

Material examined. Voucher female. AUSTRALIA, S[outh] A[ustralia], M[oun]t Lofty 31.VIII.31 W.E / Weeler, HNM, det. by Evans 1966 (HMHN).

**Distribution.** This species was previously recorded from North-west Australia (Darnell) in Western Australia (Westwood 1874). Now it is recorded for the first time from Mount Lofty in South Australia.

**Variation.** Body length 4.30 mm; LFW 3.40 mm; median clypeal lobe with median carina slightly elevate.

**Remarks.** *Eupsenella agilis* Westwood is the type-species of the genus. The original diagnosis of *E. agilis* was based on a specimen female.

***Eupsenella ceciliae* Terayama, 2004**

(Figs 3, 48, 93)

**Material examined.** Holotype female. AUSTRALIA, [South Australia], Adelaide, J. G. O. Tepper, Database n° 32–032366, SAMA. AUSTRALIA, W[estern] A[ustralia], 33.37S 115.29E, Ludlow, 1 female, 2 Nov[ember] – 23 Dec[ember] 1981, S.J.Curry, Malaise/Tuart forest, ANIC; 1 female, 4

Nov[ember] – 22 Dec[ember] 1981, S.J.Curry, Malaise/Tuart forest, ANIC; N[ew] S[outh] W[ales], 1 female, 31.57S 151.25E, 151.25E, Polblue Swamp, Barrington Tops, S. F., T.Weir, ANIC; A[ustralia] C[apital] T[erritory], Canberra, 1 female, 23 July, 1948, E.F.Riek, ANIC; 1 female, 15 Feb[ruary] 1951, E.F.Riek, ANIC; 1 female, Black M[oun]t[ain], 1–6 Jan[uary] 1980, Malaise Site 1, D.H.Colless, ANIC; 1 female, Malaise Site 2, 4–7 Feb[ruary] 1980, D.H.Colless, ANIC; 1 female, 34.21S 139.31E, Brookfield Con[servation] P[ar]k, 2 Dec[ember] 19[91] – 2 Jan[uary] 1992, J.Stelman, S.Williams, Malaise #2 mallee, ANIC; Tas[mania], 1 female, 40.54.S 145.21E, Speedwell R[oa]d, 18 Jan[uary] 1983, I.D.Naumann, J.C.Cardale, ANIC.

**Distribution.** This species was previously recorded from Adelaide and Ridgeway in South Australia (Terayama 2004). Now it is recorded for the first time from Ludlow in Western Australia; Barrington Tops in New South Wales; Canberra in Australia Capital Territory and Speedwell Road in Tasmania (Australia).

**Variation.** Body length 5.20–7.15 mm; LFW 3.47–4.77 mm; clypeus with shape rounded to truncate and broad; vertex crest strongly concave; median carina of reaching only half length of propodeal disc; *Rsb* almost straight; *Cub* vestigial; color of veins of forewing range from light castaneous to dark castaneous.

**Remarks.** This species was known from two specimens of type series, but here we got nine specimens.

### ***Eupsenella diemenensis* Dodd, 1916**

(Figs 4, 49, 94)

**Material examined.** Holotype female. AUSTRALIA, Tas[mania], Lea, M[oun]t[ain] Wellington, SAMA Database n° 32–032367, SAMA. AUSTRALIA, W[estern] A[ustralia], 1 female, Normalup Nat[ural] P[ar]k, 9 Oct[ober] 1970, D.H.Colless, ANIC; 1 female, 33.37S 115.29E, Ludlow, 4 Nov[ember] – 22 Dec[ember] 1980, S.J.Curry, Malaise/Tuart forest, ANIC; 2 females, Ludlow, 2 Nov[ember] – 23 Dec[ember] 1981, S.J.Curry, Malaise/Tuart forest, ANIC; N[ew] S[outh] W[ales], 3 females, N. E. University Armidale, 6 June 1974, C. W. Frazier, ANIC; 1 female, Wambool Common, 19 Km ESE of Bathurst, 17 Apr[il] 1981, J.C.Cardale, ex[tracted], ANIC; 1 female, Huskisson, 19 Aug[ust] 1986, I. F. B. Common, E.S.Nielsenn, ex[tracted] leafminer on *Persoonia linearis*, ANIC; 5 females, 31.57S 151.25E, Polblue Swamp, Barrington Tops, S. F. 17 Nov[ember], 1981, ANIC; 1



female, 30.22S 152.45E, Dorrigo NP, 2–15 Oct[ober] 1984, I.Naumann, J.Cardale, Malaise trap/ethanol, ANIC; S[outh] A[ustralia], 1 female, 34.37S 135.40E, 18 Km E Coffin Bay, 29 Nov[ember] 1992, I.Naumann, J.Cardale, ANIC; 2 females, 33.46S 135.06E, Lake Tungketta, 30 Nov[ember] 1992, I.Naumann, J.Cardale, ANIC; 1 female, 34.00S 140.47E, 19 Km N Renmark 10 Aug[ust] – 7 Sept[ember] 1995, Chenopod shrubland, Malaise trap, K. Pullen, Calperum Station/Bookmark Biosphere Reserve Invertebrate Survey, ANIC; 1 female, Black M[oun]t[ai]n, 12–30 Apr[il] 1980, Malaise Site 2, D.H.Colless, ANIC; 1 female, Black M[oun]t[ai]n, May 1982, I. Malaise trap, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 2 females, 35.32S 148.46E M[oun]t[ain] Ginini, Brindabella Ra[n]ge, 24 Nov[ember] 1981, I.D.Naumann, ex[tracted] ethanol, ANIC; 2 females, 35.22S 148.49E, Lees Spring, Brindabella Ra[n]ge, 24 Nov[ember] 1981, I.D.Naumann, ex[tracted] ethanol, ANIC; 1 female, Black M[oun]t[ain], Aug[ust] 1982, I.D.Naumann, J.C.Cardale/ethanol, ANIC; Tas[mania], 1 female, 40.57S 144.40E, 4 Km SW, Marrawah, 18 Jan[uary] 1983, I.D.Naumann, J.C.Cardale ex[tracted] ethanol, ANIC; 2 females, 40.58S 145.33E, 3 Km E by S, Montumana, 19 Jan[uary] 1983, I.D.Naumann, J.C.Cardale ex[tracted] ethanol, ANIC; 1 female, 41.06S 147.53E, 1 Km E by N, Herrick, 29–30 Jan[uary] 1983, I.D.Naumann, J.C.Cardale ex[tracted] ethanol, ANIC; 1 female, 41.22S 147.24E, 10 Km ENE of Nunamara, 12 Jan[uary] – 6 Feb[ruary], I.D.Naumann, J.C.Cardale Malaise/ethanol, ANIC; 1 female, 41.30S 146.05E, 14 Km SW by S, Wilmot, 31 Jan[uary] 1983, I.D.Naumann, J.C.Cardale ex[tracted] ethanol, ANIC; 1 female, 41.50S 146.03E, Pelion Hut, 3 Km S, M[oun]t[ain] Oakleigh, closed forest, 11 Feb[ruary] – 1 Mar[ch] 1990, (W. E. B. S.), Malaise 2, ANIC; 1 female, 41.50S 146.03E, Pelion Hut, 30 Nov[ember] 1990 – 8 Jan[uary] 1991, 3 Km S, M[oun]t[ain] Oakleigh, closed forest, (W. E. B. S.), Malaise 4, ANIC; 1 female, 41.50S 146.03E, Pelion Hut, 3 Km S, M[oun]t[ain] Oakleigh, closed forest, 8 Jan[uary] – 12 Feb[ruary] 1991, (W. E. B. S.), Malaise 5, ANIC; 1 female, 41.50S 146.03E, Pelion Hut, 3 Km S, 5–10 Feb[ruary] 1990, M[oun]t[ain] Oakleigh, I.D.Naumann, ANIC; 1 female, 41.52S 146.03E, Pelion Gap, 2 Km ENE, 30 Nov[ember] – 9 Jan[uary] 1991, M[oun]t[ain] Ossa, (W. E. B. S.), Malaise 6, ANIC; 1 female, 41.58S 145.28E, Ewart C[ree]k, 16 Jan[uary] 2 Feb[ruary] 1983, I.D.Naumann, J.C.Cardale, ex[tracted] pan trap, ANIC; 1 female, 42.56S 147.19E, The Lea, 5 Feb[ruary] 1983, I.D.Naumann, J.C.Cardale ex[tracted] ethanol, ANIC; 43.22S 146.08E, 2 females, Claytons, Batthurst, Harbour, 3 Dec[ember] 1990 – 15 Jan[uary] 1991, Malaise trap, Edwards, ANIC; 1 female, Celery Top Islands, Bathurst Harbour, 15 Jan[uary] 1991, A.Calder, W. Dressler, Malaise #2, closed forest, ANIC; 43.25S 146.10E, 2 females, Melaleuca, Batthurst, Harbour, 12–17 Feb[ruary] 1990, I.D.Naumann, ANIC; 3 females, Melaleuca, Batthurst, Harbour, 3 Dec[ember]

1990 – 15 Jan[uary] 1991, Malaise trap, Edwards, ANIC; 1 female, M[oun]t[ain] Barrow, R[oad] 890 m, 15–17 Feb[ruary] 1980, A.Newton, M.Thayer, *Nothofagus*, etc. beating folage, ANIC; 1 female, Franklin R[oad], 55 Km ESE, Queenstown, 400 m, 19 Feb[ruary] 1980, A.Newton, M.Thayer, open eucalypt[us] forest, window trap, ANIC; 2 females, Celery Top Is[land], 3 Dec[ember] 1990 – 15 Jan[uary] 1991, E.Nielsen, E.Edwards, Malaise trap, ANIC; 1 female, Melaleuca, Batthurst, Harbour, 3–7 Dec[ember] 1990, I.D.Naumann, closed forest, yellow trays, Malaise, ANIC; 1 female, Melaleuca, Batthurst, Harbour, 15–20 Feb[ruary] 1991, A.Calder & W.Dressler, Malaise trap, ANIC.

**Distribution.** This species was previously recorded from Mountain Wellington (Tasmania) by Dodd (1916) and Adelaide, Hobart and Ardrossan in South Australia (Australia) by Terayama (2004). Now it is recorded for the first time from Normalup and Ludlow in Western Australia; Armidale, Wambool Common, Huskisson, Barrington Tops and Dorrigo in New South Wales; Coffin Bay, Lake Tungketta, Renmark, Chenopod shrubland, Black Mountain and Brindabella Range in South Australia; Marrawah, Montumana, Herrick, Wilmot, Pelion Hut, Pelion Gap, Ewart Creek, The Lea, Celery Top Islands, Melaleuca, Mountain Barrow and Queenstown in Tasmania (Australia).

**Variation.** Body length 5.29–7.42 mm; LFW 3.10–4.53 mm; mandible ranging in color from castaneous to dark castaneous almost black; clypeus angulate to subangulate, but slightly medially emarginated; *Rsb* of forewing almost straight; discal carina of propodeal disc short (shorter than half length of disc) to long (longer than half length of disc).

**Remarks.** This species was originally describeb by Dodd (1916). However, this species was redescribed and illustrated by Terayama (2004). He also broadend the known distribution considerably, since the species was hitherto known only from the holotype. Here, we got 53 specimens.

### *Eupsenella flavifemorata* Terayama, 2004

(Figs 5, 50, 95)

**Material examined.** Holotype female. AUSTRALIA, S[outh] A[ustralia], under Mallee bark, 2 mi NW Wood's Well, Coorang Nat[ural] P[ar]k, 11 Jan[unary] 1971, J. A. Herridge and G. F. & M. Gross, SAMA Database, n° 32–032364, SAMA. AUSTRALIA, W[estern] A[ustralia], 1 female, 22 Aug[ust], Narrogin, Dry Sclero. Baits on *Eucalyptus* B. B. lowery coll[ector], ANIC; 1 female, Crowea S[ta]t[e] For[est] n[ear] Pemberton, 29 Oct[ober] – 20 Dec[ember] 1979, S.J.Curry, Malaise trap, open forest, ANIC; 1 female, 31.40S 128.55E, 3 Km E by N, Eucla, 13 Oct[ober] 1981, I.D.Naumann, J.C.Cardale,

ex[tracted] ethanol, ANIC; 1 female, 32.51S 141.37E, 1 female, 100 Km SbyE, Broken Hill, 3–13 Oct[ober] 1988, E. D. Edwards, Malaise/ethanol, ANIC; S[outh] A[ustralia], 1 female, 33.40S 134.54E, 1 Km SbyE Elliston, 30 Nov[ember] 1992, I.Naumann, J.Cardale, ANIC; 1 female, 34.21S 139.29E, Brookfield Con[servation] P[ar]k, 3–12 Sept[ember] 1991, Campsite, J.Lawrence, T.Weir, W. Dressler, under *Mallee bark*, ANIC.

**Distribution.** This species was previously recorded from Coorang National Park in South Australia (Terayama 2004). Now it is recorded for the first time from Narrogin, Crowea State Forest, Eucla and Broken Hill in Western Australia; Elliston and Brookfield Conservation Park in South Australia (Australia).

**Variation.** Body length 3.80–7.91 mm; LFW 4.28–4.76 mm; median clypeal lobe subangulate and with slightly concave medially; parapsidal furrow conspicuous throughout mesoscutum; notauli completely parallel to each other; legs more yellowish than holotype.

**Remarks.** This species was known from two specimens of type series, here we got seven specimens.

### ***Eupsenella insulana* Gordh & Harris, 1996**

(Figs 6–7, 51–52, 96–97, 138, 145–147)

**Material examined.** Allotype male and paratype female. NEW ZEALAND, C[entral] Otago, Alexandra, collected 22.ii.1994, emerged 11.iii.1994, A.C.Harris, Collector, Host: *Harmologa amplexana* (Zeller), Nest of *Anastrocerus gazella* (Panzer), NZAC. AUSTRALIA, Q[ueenslan]d, 1 female, Bald M[oun]t[ai]n Area, 3–4000', via Emu Vale, S. E. 22–27.i.1971, S.R.Nonteich, ANIC; 1 female, Crowea S[ta]t[e] For[est] n[ear] Pemberton, 29 Oct[ober] – 20 Dec[ember] 1979, S.J.Curry, Malaise trap, closed forest, ANIC; 1 male, 17.02S 145.37E, 3 Km N by E, M[oun]t[ain] Tip Tree, 20 Oct[ober] 1980, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 female, 33.40S 120.40E, Oldfield R[oad], 52 km WNW, Shoal Cape, 21 Sept[ember] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; W[estern] A[ustralia], 1 male, 33.50S 119.15E, Fitzgerald R[oad], 36 Km ENE Jerramungup, 22 Sept[ember] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 29.18S 117.39E, 5 Km SW by W, Paynes Find, 29 Sept[ember] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 34.50S 117.58E, Neppel C[ree]k, 21 Km NNE Albany, 7 Oct[ober] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 32.22S 118.18E, 14 Km N by E, Kondinin, 8 Oct[ober]

1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 2 males, 31.21S 118.57E, 2 Km SW by W, Noongar, 9 Oct[ober] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 31.22S 118.47E, 9 Km E by S, Carrabin, 9 Oct[ober] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 3 males, 31.18S 119.44E, 6 Km E of Yellowdine, 10 Oct[ober] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, Drummond Cove, 11 Km NE, Geraldton, N.Mcfarland, par. *Philobota* sp. (Lep[idoptera), ANIC; N[ew] S[outh] W[ales], 1 male, 36.12S 148.43E, Dainers Gap, 22 Jan[uary] 1974, ex[tracted] *Eucalyptus stellulata*, 1585 metres *Euc[alyptus] pauciflora*, *stellulata* and *perriniana* forest wondland, on *Eucalyptus nitida*, P. Morrow, ANIC; 1 male, Trangle, 5–7 Oct[ober] 1979, Aerial metting, 200–300 metres, R. Farrow, ANIC; 1 male, 5 Km SbyW, Monga, 9 Nov[ember] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 female, 5 Km S by W, Monga, 9 Nov[ember] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 31.57S 151.25E, Polblue Swamp, Barrington Tops, S. F., 17 Nov[ember] 1981, Pyrethein spray, *Eucalyptus*, T.Weir, ANIC; 9 females, 31.57S 151.25E, Polblue Swamp, Barrington Tops, S. F., 17 Nov[ember] 1981, T.Weir, ANIC; 1 female, 35.24S 149.23E, Whiskers, 7 Km WNW of Hoskinstown, 13 Nov[ember] 1992, M.S.Upton, ANIC; 1 male, 35.24S Whiskers, 7 Km WNW of Hoskinstown, 22 Jan[uary] 1993, M.S.Upton, Malaise trap, ANIC; 1 female, 35.24S 149.23E, Whiskers, 7 Km WNW of Hoskinstown, 2 Apr[il] 1993, M.S.Upton, ANIC; 1 female, 36.12S 148.43E, Dainers Gap, 5 Feb[ruary] 1994, Ex[tracted] *Eucalyptus pauciflora*, 1585 metres, *Euc[alyptus] pauciflora* forest, ANIC; S[outh] A[ustralia], 1 male, 35.25S 140.49E, 18 Km SSW, Pinnaroo, 20–24 Oct[ober], 1983, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 34.45S 135.49E, 4 Km SWbyS, Port Lincoln, 29 Nov[ember] 1992, I.Naumann, J.Cardale, ANIC; 1 male, 33.40S 134.54E, 1 Km SbyE, Elliston, 30 Nov[ember] 1992, I.D.Naumann, J.C.Cardale, ANIC; A[ustralia] C[apital] T[erritory], 1 female, 6 Jan[uary] 1980, E.F.Riek, ANIC; 1 female, Black M[oun]t[ai]n, Malaise, Site 2, 1–11 Apr[il] 1980, D.H.Colless, ANIC; 1 female, Black M[oun]t[ai]n, May 1982, Malaise Trap, ANIC; 2 females, M[oun]t[ain] Gingera, 18 Feb[ruary] 1981, A. A.Calder, Berlesate from moss mat on boulder, ANIC; 2 males, 35.22S 148.49E, M[oun]t[ain] Ginini, Brindabella Ra[n]ge, 24 Nov[ember] 1981, J.C.Cardale, ANIC; 23 males and 2 females, 35.22S 148.49E, Picadilly Circus, Brindabella Ra[n]ge, 24 Nov[ember] 1981, J.C.Cardale, ANIC; 2 males, 35.22S 148.49E, Lees Spring, Brindabella Ra[n]ge, 24 Nov[ember] 1981, I.D.Naumann, ex[tracted] ethanol, ANIC; 1 female, Piccadilly Circus, Brindabella R[an]ge, 24 Oct[ober] 1982, J.F.Lawrence coll[ector], Pyrethein fogging, *Eucalyptus bark*, ANIC; 1 female, 43.25S 146.10E, Melaleuca Bathurst, Harbour, 15–20 Feb[ruary] 1991, Malaise trap, A. Calder & W. Dressler,

ANIC; Tas[mania], 1 male, 41.21S 147.22E, Barrow C[ree]k, 8 Km NE Nunamara, 12 Jan[uary] – 6 Feb[ruary] 1983, I.D.Naumann, J.C.Cardale, Malaise/ethanol, ANIC; 1 male, 41.19S 147.56E, Intake Bridge, 13 Jan[uary] 1983, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 40.58S 145.33E, 3 Km EbyS, Montunama, 19 Jan[uary] 1983, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 42.10S 146.08E, 9 Km WSW, Derwent Bridge, 21 Jan[uary] 1983, I.D.Naumann, J.C.Cardale, ex[tracted] yellow tray, ANIC; 1 male, 42.38S 147.38E, 7 Km WbyS, Buckland, 27 Jan[uary], I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 42.37S 147.39E, 5 Km W Buckland, 27 Jan[uary] 1983, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 41.38S 148.13E, Elephant Pass, 28 Jan[uary] 1983, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 41.06S 147.53E, 1 Km E by N, Herrick, 29–30 Jan[uary] 1983, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 male, 42.02S 146.33E, 12 Km NNE, Bronte Park, 2 Feb[ruary] 1983, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 2 males, 43.25S 146.10E, Melaleuca, Bathurst, Harbour, 12–17 Feb[ruary] 1990, I.D.Naumann, ANIC; 1 male, 43.25S 146.10E, Melaleuca, Bathurst, Harbour, 12 Apr[il] 1990, J. A. Berry, pan trap, ANIC. NEW ZEALAND, A[uc]K[land], 2 males and 3 females, Manurewa, Wiri, 92 Langley R[oa]d, 20 m, 20.i – 3.iii.2003, R.J.Toft, S.Hona, Mini Malaise trap, Site: 7, NZAC; 2 females, Tiritiri I, 3 Mar[ch] – 6 Apr[il] 2002, Malaise trap, D.Clarks; 3 females, Manurewa, Wiri, 92 Langley R[oa]d, 20 m, 20i–3iii.2003, Mini Malaise trap, Site 2, R.J.Toft, S.Hona; MK, 1 male and 2 females, Lake Tekapo, Dec[ember] 1980, Malaise trap, in tussock near pine plantation, P.Quinn, NZAC; 4 females, Mar[ch] 1981, P.Quim, Malaise trap in tussock near pine plantation NZAC; NM, 1 female, Bullivants I, Mapua Estuary, Feb[ruary]- Mar[ch] 1987, Malaise trap in coastal scrub, A.K.Walker; 1 female, Riwaka, 30 Apr[il] 1998, P.Shaw, Apples N° 1; Nelson, 2 females, 25–4–[19]28, E.S. Gourlay, NZAC; MC, 1 female, Lincoln, 21 Dec[ember] 1994, G.Bumip, collected as pupa on broom 2-2, NZAC; C[entral] Otago, 1 male, Crownwell, Beetle Reserve, 14–17 Nov[ember] 1977, Malaise trap, J.C.Matt, NZAC; 1 male, NN, Riwaka, 13 Feb[ruary] 1988, P. Shaw, apple resistant var., H.C. width 1.37, NZAC; 1 female, 4/3/1996, ex[tracted] Ancistrocerus nests, NZAC; 1 female, Earnsclough Stn, 450 m, 3 Feb[ruary] 1997, Aidinga Cons[ervation] Area, Pitfalls, B.I.P.Barratt; 2 females, Clyde, C.H.Wearing, 7 Jan[uary] 2001, ex[tracted] leafroller, both from same host; NZAC.

**Remarks.** This is the only species represented by females and males. It was known from seven females and three males, now we got 45 females and 64 males, of which 20 females and five males are

from New Zealand. The original description of male genitalia is not enough to identify precisely this species, so we up dated the description of the male genitalia and hypopygium below.

**Description of hypopygium and genitalia.** (Figs 138, 145–147). Hypopygium (Fig. 138) punctulate; posterior margin strongly angulate; teeth of posterior margin straight, teeth closed each other, almost evenly thick; lateral stalk present and long. Genitalia (Figs 145–147) with paramere double. Paramere not fused to basiparamere; inner margin of ventral arm not angulate; basiparamere with apical margin not angulate; volsella not surpassing aedeagus apex; cuspis short,  $0.10 \times$  length of apical lobe of aedeagus,  $1.0 \times$  width of apical lobe of aedeagus; digitus  $0.40 \times$  length of apical lobe of aedeagus, upper surface spinose; aedeagus with median region as wide as base; apical lobe long,  $0.50 \times$  length of apical lobe of aedeagus, fold of inner margin present; apex almost straight.

**Variation.** Males: body length 4.28–6.67 mm; LFW 3.33–4.77 mm; clypeus with median clypeal lobe angulate to subangulate; discal carina of propodeal disc very short, almost inconspicuous to short; pronotal disc short to very short; propodeal disc slightly confused-rugulose; median carina reaching posterior margin, but mingling with sculpturing of disc. Females: body length 4.00–6.00 mm; LFW 3.90–5.00 mm; clypeus with median clypeal lobe almost truncate; pronotal disc short to very short; parapsidal furrow conspicuous only posterad; median carina very weak in posterior region of propodeal disc, almost a line; discal carina of propodeum slightly shorter than half length of propodeal disc; metasoma slightly elongated to much elongated; *Rsb* of forewing slightly convex to straight; legs with colors castaneous to dark castaneous.

**Distribution.** This species was previously recorded from Central Otago (New Zealand) by Gordh & Harris (1996). Now it is recorded for the first time from Auckland (New Zealand) and Mountain Tip Tree, Bald Mountain, Oldfield Road and Crowea State Forest in Queensland; Fitzgerald Road, Paynes Find, Neppler Creek, Kondinin, Noongar and Carrabin, Drummond Cove in Western Australia; Whiskers, Dainers Gap, Monga, Trangle and Barrington Tops in New South Wales; Pinnaroo, Port Lincoln and Elliston in South Australia; Brindabella Range and Picadilly Circus and Mountain Ginger in Australia Capital Territory; Barrow Creek, Intake Bridge, Montunama, Derwent Bridge, Buckland, Elephant Pass, Bronte Park and Melaleuca in Tasmania (Australia).

***Eupsenella reticulata* Terayama, 2004**

(Figs 8, 53, 98)

**Material examined.** Holotype female. AUSTRALIA, S[outh] A[ustralia], Teatre Eully, 16 Nov[ember] 1958, on *Eucalyptus tucoxylon*, R.V.Southcotl, SAMA Database n° 32–032365, SAMA. AUSTRALIA, S[outh] A[ustralia], 1 female, Trezona camp, Brachina C[ree]k, 7 Nov[ember] 1987, I.Naumann, J.Cardale, ex[tracted] ethanol, ANIC.

**Distribution.** This species was previously recorded from Tea Tree Gully in South Australia (Australia) by Terayama (2004) and now it is recorded for the first time from Trezona camp in South Australia (Australia).

**Variation.** Body length 6.58 mm; LFW 3.80 mm; *Rsb* of forewing almost completely aligned with *Cua*.

**Remarks.** This species was known only from the holotype, now we studied one more specimen from the type locality. This specimen analyzed here has a low degree of variation when compared to the holotype.

***Eupsenella* sp. nov. 1**

(Figs 9, 54, 99, 139, 148–150)

**Description.** Holotype. Male. Body length 5.95 mm. LFW 4.29 mm.

**Color.** Head, mesosoma and metasoma dark castaneous almost black; scape, pedicel, tegula, wing venation, dark castaneous; mandible castaneous; palpi light castaneous; procoxa castaneous; mesocoxa, metacoxa, trochanters, femora dark castaneous; tarsi light castaneous.

**Head** (Fig. 9). Head as long as wide, subtriangular in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin weakly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.07 \times LH$ , well marked off from frons, median carina present,  $0.2 \times LH$ . Malar space conspicuous,  $0.21 \times$  mandibular base. Antenna 2.14 mm, first five antennomeres in ratio of about 16:13:14:16:18; flagellomere I  $1.17 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.09 \times LH$ . Eye not

protuberant,  $0.45 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate.  $WH\ 1.0 \times LH$ .  $WF\ 0.64 \times WH$ .  $WF\ 1.45 \times HE$ .  $OOL\ 0.88 \times WOT$ .  $VOL\ 0.46 \times HE$ . Distance from posterior ocellus to vertex crest  $0.5 \times DAO$ . Ocelli large,  $DAO\ 0.16 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $1.58 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.20 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 54). Pronotal disc coriaceous-punctate,  $0.4 \times$  as long as wide, anterior corner angulate, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $1.9 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.12 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $9.33 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.83 \times$  length propodeal disc, complete posterad; discal carina  $0.16 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture wholly conspicuous; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesoplectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 99) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* straight; 2R1 cell  $0.16 \times LFW$ ; distal margin of *Rsc* convex; *r-rs* vein inclined; *R1b* entirely on anterior margin of forewing; *Cub* present; *Rs+M* vein  $1.2 \times Rsa$ ; *M* vein  $2.0 \times Rsa$ ; *Rsa* slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.43 \times$  as wide as long. Metacoxa with median region  $0.67 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.36 \times$  as wide as long. Hypopygium (Fig. 139) with posterior margin weakly angulate; teeth of posterior margin straight, teeth distant each other, almost evenly thick; lateral stalk present and long. Genitalia (Figs 148–150) with paramere double, apical margin in lateral view without



concavity, inner margin of ventral arm not angulate in lateral view; basiparamere with apical margin slightly angulate medially; volsella not surpassing aedeagus apex; cuspis  $0.54 \times$  length of apical lobe of aedeagus,  $1.84 \times$  width of apical lobe of aedeagus; digitus  $0.92 \times$  length of apical lobe of aedeagus, upper surface spinose; aedeagus with median region wider than base; apical lobe  $0.43 \times$  aedeagus length, fold of inner margin present; apex straight.

**Material examined.** Holotype. AUSTRALIA, Tas[mania], 43.22S 146.09, Celery Top I[sland]s, Bathurst Harbour, 12–17 Feb[ruary] 1990, I.D.Naumann, rainforest, ANIC. Paratypes. AUSTRALIA, N[ew] S[outh] W[ales], 1 male, Clyde M[ountain], lands lip, 5 May, 1965, D.H.Colless, ANIC; Tas[mania], 1 male, 41.16S 145.37E, Hellyer George, 1 Feb[ruary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol, ANIC; 43.22S 146.08E, 1 male, Claytons, Bathurst Harbour 3 Dec[ember] 1990 – 15 Jan[uary] 1991, Nielsen, Edwards, Malaise trap, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.29–5.48 mm; LFW 3.90–4.30 mm; median clypeal lobe slightly projected, vertex crest almost straight.

**Remarks.** This species is similar to *E. insulana* and *Eupsenella* sp. nov. 4. *E. sp. nov. 1* resembles *E. insulana* by having the median clypeal lobe angulate, the discal carina and median carina of propodeal disc present, the hind wing with four distal hamuli, the posterior margin of hypopygium angulate and the lateral stalk of hypopygium conspicuous, but it differs from it by having the apical margin of digitus spinose, the posterior margin of hypopygium with teeth wide and one distant from the other, whereas *E. insulana* has the apical margin of digitus not spinose, the posterior margin of hypopygium very close to each other. When it is compared with *E. sp. nov. 4* one notes that both species presents the eyes small, the ocelli large, the median carina of median clypeal lobe strongly elevated, the median carina of propodeal disc long, the posterior margin of hypopygium angulate and the genitalia with paramere doble. However this species has the vertex crest of head slightly convex, the region between the anterior margin of eye and antennal torulus straight, the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the Rsc of forewing convex, the lateral stalk of hypopigium long, the parameres of genitalia long, whereas *E. sp. nov. 4* has the vertex crest of head straight, the region between the anterior margin of eye and antennal torulus concave, the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the Rsc of forewing angulate medially, the lateral stalk of hypopigium very short, almost inconspicuous and the parameres of genitalia short.

***Eupsenella* sp. nov. 2**

(Figs 10, 55, 100, 140, 151–153)

**Description.** Holotype. Male. Body length 5.24 mm. LFW 4.42 mm.

**Color.** Head dark castaneous almost black; scape and mandible dark castaneous; pedicel, flagellum, palpi, tegula and wing venation castaneous; mesosoma dark castaneous almost black; procoxa and mesocoxa dark castaneous; metacoxa, trochanters and tarsi castaneous; femora dark castaneous; metasoma dark castaneous.

**Head** (Fig. 10). Head wider than long, globoid in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus polished, median clypeal lobe truncate, median concavity of median clypeal lobe absent,  $0.07 \times LH$ , well marked off from frons, median carina absent. Malar space conspicuous,  $0.25 \times$  mandibular base. Antenna 2.38 mm; first five antennomeres in ratio of about 14:15:14:15:14; flagellomere I  $1.56 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.12 \times LH$ . Eye not protuberant,  $0.44 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.14 \times LH$ . WF  $0.6 \times WH$ . WF  $1.37 \times HE$ . OOL  $1.0 \times WOT$ . VOL  $0.55 \times HE$ . Distance from posterior ocellus to vertex crest  $0.5 \times DAO$ . Ocelli large, DAO  $0.11 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $4.4 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.23 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, high.

**Mesosoma** (Fig. 55). Pronotal disc coriaceous-punctate,  $0.37 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc with short longitudinal furrow. Parapsidal furrow inconspicuous. Notauli convergent posterad. Mesoscutum  $1.2 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.95 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, dilated, distant each other  $9.0 \times$  its own diameter. Dorsal axillar surface with fovea almost circular. Metanotum with median region almost flat, foveolate, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.73 \times$  length propodeal disc, incomplete posterad; discal carina  $0.19 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina confused-

rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 100) with 1M cell subtriangular; 1M and 1R1 cells aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.18 \times$  LFW; distal margin of Rsc strongly convex; r-rs vein inclined; R1b arching distally; Cub present; Rs+M  $1.2 \times$  Rsa; M vein  $1.25 \times$  Rsa; Rsa slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with five distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.34 \times$  as wide as long. Metacoxa with median region  $0.4 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.34 \times$  as wide as long. Hypopygium (Fig. 140) with posterior margin strongly angulate; teeth of posterior margin arched, teeth distant each other, narrowing apicad; lateral stalk present, but almost vestigial. Genitalia (Figs 151–153) with paramere double, apical margin in lateral view without concavity, inner margin of ventral arm not angulate in lateral view; basiparamere with apical margin strongly angulate medially; volsella aligned with aedeagus apex; cuspis  $0.45 \times$  length of apical lobe of aedeagus,  $1.1 \times$  width of apical lobe of aedeagus; digitus  $0.35 \times$  length of apical lobe of aedeagus, upper surface not spinose; aedeagus with median region wider than base; apical lobe  $0.43 \times$  aedeagus length, fold of inner margin present; apex straight.

**Material examined.** Holotype. AUSTRALIA, N[ew] S[outh] W[ales], Royalla, Mar[ch] 1961, D.H.Colless, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *E. insulana* by having the discal carina and median carina of propodeal disc present, the hind wing with four distal hamuli, the posterior margin of hypopygium angulate. However this species has the median clypeal lobe truncate, the median clypeal lobe with median carina absent, the aedeagus wider medially, whereas *E. insulana* has the median clypeal lobe angulate, the median clypeal lobe with median carina present and the aedeagus wider basally.

***Eupsenella* sp. nov. 3**

(Figs 11, 56, 101, 141, 154–156)

**Description.** Holotype. Male. Body length 4.2 mm. LFW 3.43 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible light castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation, coxae, trochanters, femora, tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 11). Head as long as wide, globoid in profile; gena without concavity in profile. Mandible with base wider than apex, lowermost tooth larger than upper ones, lower tooth curved inward, lower margin weakly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.07 \times LH$ , well marked off from frons, median carina present,  $0.26 \times LH$ . Malar space conspicuous,  $0.33 \times$  mandibular base. Antenna 1.52 mm, first five antennomeres in ratio of about 9:9:9:9:10; flagellomere I  $1.29 \times$  longer than wide, flagellar pubescence sparse, with few outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times LH$ . Eye not protuberant,  $0.50 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times LH$ . WF  $0.63 \times WH$ . WF  $1.33 \times HE$ . OOL  $1.0 \times WOT$ . VOL  $0.56 \times HE$ . Distance from posterior ocellus to vertex crest  $0.25 \times DAO$ . Ocelli large, DAO  $0.16 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $3.14 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.26 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina sinuous, low.

**Mesosoma** (Fig. 56). Pronotal disc coriaceous-punctate,  $0.4 \times$  as long as wide, anterior corner angulate, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow inconspicuous. Notauli convergent posterad. Mesoscutum  $1.33 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.11 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit almost circular, narrowed, distant each other  $11.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea elliptical laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.70 \times$  length propodeal disc, incomplete

posterad; discal carina absent. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe conspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesospectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 101) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 cell present, slightly longer than 2R1 cell, evenly wide; Rsb convex; 2R1 cell  $0.17 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.25 \times$  Rsa; M vein  $1.4 \times$  Rsa; Rsa slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.4 \times$  as wide as long. Metacoxa with median region  $0.5 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.31 \times$  as wide as long. Hypopygium (Fig. 141) with posterior margin strongly angulate; teeth of posterior margin straight, teeth distant each other, almost evenly thick; lateral stalk present, but short. Genitalia (Figs 154–156) with paramere simple, apical margin in lateral view with weak concavity, paramere not fused of paramere to basiparamere; basiparamere with apical margin not angulate; volsella aligned with aedeagus apex; cuspis  $0.20 \times$  length of of apical lobe of aedeagus,  $0.63 \times$  width of apical lobe of aedeagus; digitus  $0.20 \times$  length of apical lobe of aedeagus, upper surface not spinose; aedeagus with median region as wide as base; apical lobe  $0.45 \times$  aedeagus length, fold of inner margin present; apex rounded.

**Material examined.** Holotype. AUSTRALIA, Q[ueensland], 19.00S 146.12E, 900 m, 25 Oct[ober] – 30 Nov[ember] 1980, D.Frith, Malaise trap, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *E. insulana* and *Eupsenella* sp. nov. 1. *Eupsenella* sp. nov. 3 resembles *E. insulana* by having the median carina of propodeal disc present, the hind wing with four distal hamuli, the posterior margin of hypopygium, but it differs from it by having the propodeal disc with the discal carina absent, the genitalia with paramere simple, whereas *E. insulana* has the discal carina of propodeal disc absent and the genitalia with two paramere. When it is compared with *E. sp. nov. 1* one notes that both species presents the ocelli large, the median carina of median clypeal lobe elevated in profile, the region between the anterior margin of eye and antennal torulus straight, the

median clypeal lobe angulate, the median carina of propodeal disc present and the lateral stalk of hypopygium present. However this species has scutellar pit small and almost circular, the C cell of forewing conspicuous only distally, the genitalia with paramere simple and the genitalia with paramere long, whereas *E. sp. nov. 1* has the scutellar pit large and elongated, the C cell of forewing conspicuous almost at all extension of C cell, the genitalia with paramere double and the genitalia with paramere short.

***Eupsenella sp. nov. 4***

(Figs 12, 57, 102, 142, 157–159)

**Description.** Holotype. Male. Body length 4.68 mm. LFW 3.9 mm.

**Color.** Head dark castaneous almost black; scape and pedicel castaneous; flagellum light castaneous; mandible castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation light castaneous; coxae castaneous; trochanters light castaneous; femora castaneous; tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 12). Head as long as wide, globoid in profile; gena without concavity in profile. Mandible with base wider than apex, lowermost tooth larger than upper ones, lower tooth curved inward, lower margin weakly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.10 \times LH$ , well marked off from frons, median carina present,  $0.14 \times LH$ . Malar space inconspicuous,  $0.15 \times$  mandibular base. Antenna 1.86 mm; first five antennomeres in ratio of about 11:11:13:14:15; flagellomere I  $1.3 \times$  longer than wide, flagellar pubescence sparse, with few outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.18 \times LH$ . Eye not protuberant,  $0.47 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate.  $WH 1.0 \times LH$ .  $WF 0.67 \times WH$ .  $WF 0.67 \times HE$ .  $OOL 0.86 \times WOT$ .  $VOL 0.22 \times HE$ . Distance from posterior ocellus to vertex crest  $0.33 \times DAO$ . Ocelli large,  $DAO 0.14 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $4.6 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.24 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina angulate, low.

**Mesosoma** (Fig. 57). Pronotal disc coriaceous-punctate,  $0.33 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal

furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $1.8 \times$  length pronotal disc. Scutellum coriaceous,  $1.33 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $7.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.90 \times$  length propodeal disc, incomplete posterad; discal carina  $0.38 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar present. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 102) with 1M cell subpentagonal; 1M and 1R1 cells aligned basally; C cell widening distally; 1R1 cell present, slightly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.19 \times$  LFW; distal margin of Rsc angulate; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $0.73 \times$  Rsa; M vein  $1.43 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.4 \times$  as wide as long. Metacoxa with median region  $0.55 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.22 \times$  as wide as long, with few setae, ventral carina of petiole present. Hypopygium (Fig. 142) with posterior margin strongly angulate; teeth of posterior margin straight, teeth distant each other, narrowing apicad; lateral stalk present, but almost vestigial. Genitalia (Figs 157–159) with paramere double, apical margin in lateral view without concavity, inner margin of ventral arm angulate medially in lateral view; basiparamere with apical margin not angulate medially; volsella aligned with aedeagus apex; cuspis  $0.50 \times$  length of apical lobe of aedeagus,  $1.23 \times$  width of apical lobe of aedeagus; digitus  $0.25 \times$  length of apical lobe of aedeagus, upper surface not spinose; aedeagus with median region as wide as base; apical lobe  $0.38 \times$  aedeagus length, fold of inner margin absent; apex straight.

**Material examined.** Holotype. AUSTRALIA, N[ew] S[outh] W[ales], Wiamgaree S[tate] For[est], 1050 m, Isakson Ridge, 29 Feb[ruary] – 3 Mar[ch] 1980, A.Newton & M.Thayer Northo. moorei, rainf[orest], flight intercept/window trough trap, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *E. insulana* and *Eupsenella* sp. nov. 1. *Eupsenella* sp. nov. 4 resembles *E. insulana* by having the median clypeal lobe angulate, the median carina of propodeal disc present, the hind wing with four distal hamuli, the posterior margin of hypopygium angulate, but it differs from it by having the median carina of propodeal disc short the ventral arm with inner margin clearly angulate, whereas *E. insulana* has the median carina of propodeal disc long, the ventral arm of genitalia without inner margin clearly angulate. When it is compared with *E. sp. nov. 1* one notes that both species presents the eyes small, the ocelli large, the median carina of median clypeal lobe strongly elevated, the median carina of propodeal disc long, the posterior margin of hypopygium angulate and the genitalia with paramere double. However this species has the vertex crest of head straight, the region between the anterior margin of eye and antennal torulus concave, the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the Rsc of forewing angulate medially, the lateral stalk of hypopygium very short, almost inconspicuous and the parameres of genitalia short, whereas *E. sp. nov. 1* has the vertex crest of head convex, the region between the anterior margin of eye and antennal torulus straight, the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the Rsc of forewing convex, the lateral stalk of hypopygium long and the paramere of genitalia short.

***Eupsenella* sp. nov. 5**

(Figs 13, 58, 103, 143, 160–162)

**Description.** Holotype. Male. Body length 5.43 mm. LFW 3.96 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible castaneous with teeth dark castaneous; palpi castaneous; mesosoma dark castaneous almost black; tegula, wing venation, coxae, trochanters, femora and tarsi castaneous; metasoma dark castaneous almost black.

**Head** (Fig. 13). Head as long as wide, globoid in profile; gena without concavity. Mandible with base wider than apex, lowermost tooth larger than upper ones, lower tooth curved inward, lower margin weakly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.07 \times \text{LH}$ , well marked off from frons, median carina present,  $0.1 \times \text{LH}$ . Malar space conspicuous,  $0.33 \times$  mandibular base. Antenna 3.95 mm; first five antennomeres in ratio of about



11:12:12:14:14; flagellomere I  $1.2 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times$  LH. Eye not protuberant,  $0.50 \times$  LH, with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times$  LH. WF  $0.7 \times$  WH. WF  $1.33 \times$  HE. OOL  $1.0 \times$  WOT. VOL  $0.33 \times$  HE. Distance from posterior ocellus to vertex crest  $0.67 \times$  DAO. Ocelli large, DAO  $0.13 \times$  WF, ocellar triangle not compact, distance between posterior ocelli  $2.17 \times$  DAO, anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.22 \times$  LH, temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, high.

**Mesosoma** (Fig. 58). Pronotal disc coriaceous-punctate,  $0.38 \times$  as long as wide, anterior corner angulate, posterior margin strongly concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow inconspicuous. Notauli convergent posterad. Mesoscutum  $1.4 \times$  length pronotal disc, lateral margin of not carinate. Scutellum coriaceous-punctate,  $1.05 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, dilated, distant each other  $10.0 \times$  its own diameter. Dorsal axillar surface with fovea subrectangular. Metanotum with median region almost flat, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.90 \times$  length propodeal disc, incomplete posterad; discal carina absent; disc predominantly slightly confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 103) with 1M cell subpentagonal; 1M and first 1R1 cells not aligned basally; C cell widening distally; 1R1 present, distinctly longer than 2R1 cell, evenly wide; Rsb convex; 2R1 cell  $0.12 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.0 \times$  Rsa; M vein  $1.66 \times$  Rsa; Rsa slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.46 \times$  as wide as long. Metacoxa with median region  $0.48 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.3 \times$  as wide as long. Hypopygium (Fig. 143) with posterior margin strongly angulate; teeth of posterior margin straight, teeth distant each other, narrowing apicad; lateral stalk present, but almost vestigial. Genitalia (Figs 160–162) with paramere double, apical margin in lateral view without concavity, inner margin of ventral arm angulate basally in lateral view; basiparamere with apical margin not angulate; volsella aligned with aedeagus apex; cuspis  $0.40 \times$  length of apical lobe of aedeagus,  $2.20 \times$  width of apical lobe of aedeagus; digitus  $0.38 \times$  length of apical lobe of aedeagus, upper surface not spinose; aedeagus with median region as wide as base; apical lobe  $0.47 \times$  aedeagus length, fold of inner margin absent; apex straight.

**Material examined.** Holotype. AUSTRALIA, Tas[mania], 42.04S 148.13E, 14 km ESE Cranbrook, 28 Jan[uary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *E. insulana* by having the median clypeal lobe angulate, the median carina of propodeal disc present, the hind wing with four distal hamuli, the posterior margin of hypopygium angulate, the *Rsb* of forewing slightly convex, the apical lobe of aedeagus large. However this species has the propodeal disc with discal carina absent, the digitus not spinose, the C cell of forewing conspicuous almost at all extension of C cell, the teeth of posterior margin of hypopygium clearly narrowing strongly toward apex, the teeth of posterior margin of hypopygium distant from each other, the lateral stalk of hypopygium almost inconspicuous, the apical lobe of aedeagus with fold in the inner margin absent, whereas *E. insulana* has the propodeal disc with discal carina present, but short, the digitus spinose, the C cell of forewing conspicuous only distally, the teeth of posterior margin of hypopygium evenly wide, the digitus spinose, the teeth of posterior margin of hypopygium evenly wide, close to each other, the lateral stalk of hypopygium long, the apical lobe of aedeagus with fold in the inner margin present.

### ***Eupsenella* sp. nov. 6**

(Figs 14, 59, 104, 144, 163–165)

**Description.** Holotype. Male. Body length 4.85 mm. LFW 3.58 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible light castaneous with teeth dark castaneous; palpi castaneous; mesosoma dark castaneous almost black;

tegula castaneous; wing venation light castaneous; procoxa, mesocoxa, and metacoxa castaneous; trochanters light castaneous; femora castaneous; tarsi light castaneous; metasoma castaneous.

**Head** (Fig. 14). Head wider than long, globoid in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.08 \times LH$ , well marked off from frons, median carina present,  $0.24 \times LH$ . Malar space inconspicuous,  $0.18 \times$  mandibular base. Antenna 1.2 mm; first five antennomeres in ratio of about 12:12:12:12:12; flagellomere I  $1.5 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.10 \times LH$ . Eye protuberant,  $0.58 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.24 \times LH$ . WF  $0.62 \times WH$ . WF  $1.3 \times HE$ . OOL  $0.72 \times WOT$ . VOL  $0.4 \times HE$ . Distance from posterior ocellus to vertex crest  $0.33 \times DAO$ . Ocelli large, DAO  $0.15 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $1.90 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, short setae,  $0.10 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, high.

**Mesosoma** (Fig. 59). Pronotal disc coriaceous-punctate,  $0.37 \times$  as long as wide, anterior corner rounded, posterior margin almost straight, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli parallel to each other. Mesoscutum  $1.65 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.2 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, dilated, distant each other  $5.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.83 \times$  length propodeal disc, incomplete posterad; discal carina  $0.23 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture wholly conspicuous; mesopleural epicoxal lobe conspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesoplectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 104) with 1M cell subtriangular; 1M and 1R1 cells aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.16 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.5 \times$  Rsa; M vein  $1.4 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.4 \times$  as wide as long. Metacoxa with median region  $0.53 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.27 \times$  as wide as long, with few setae, ventral carina of petiole present. Hypopygium (Fig. 144) with posterior margin strongly angulate; teeth of posterior margin straight, teeth distant each other, almost evenly thick; lateral stalk present, but almost vestigial. Genitalia (Figs 163–165) with paramere double, apical margin in lateral view without concavity, inner margin of ventral arm not angulate in lateral view; basiparamere with apical margin angulate medially; volsella aligned with aedeagus apex; cuspis  $0.36 \times$  length of apical lobe of aedeagus,  $1.40 \times$  width of apical lobe of aedeagus; digitus  $0.50 \times$  length of apical lobe of aedeagus, upper surface spinose; aedeagus with median region as wide as base; apical lobe  $0.45 \times$  aedeagus length, fold of inner margin present; apex straight.

**Material examined.** Holotype. AUSTRALIA, Q[ueens]L[an]D, Black Mountain Road, Julatten, 5 Sept[ember] – 10 Oct[ober] 1987, A. Walford-Huggins, rainf[orest], interc[ept] trap, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *E. insulana* and *Eupsenella* sp. nov. 4. *Eupsenella* sp. nov. 6 resembles *E. insulana* by having the median clypeal lobe angulate, the median carina of propodeal disc present, the hind wing with four distal hamuli, the posterior margin of hypopygium angulate, but it differs from it by having the propodeal disc discal carina absent, the 1M cell of forewing triangular, the Rsb of forewing aligned with Cua, the anterior margin of basiparamere angulate medially, the teeth of posterior margin of hypopygium slightly narrowed toward apex, whereas *E. insulana* has with the discal carina of propodeal disc present, but almost inconspicuous, the 1M cell of forewing subpentagonal, the Rsb of forewing not aligned with Cua, the anterior margin of basiparamere not angulate medially in lateral view, the teeth of posterior margin of hypopygium almost evenly thick. When it is compared with *E. sp. nov. 4* one notes that both species presents the eyes large and protuberant, the ocelli large, vertex crest straight, the median clypeal lobe angulate, the median carina of median clypeal lobe present and elevated, the median carina of propodeal disc long, the Rsb of forewing aligned basally with Cua, the

genitalia with paramere double. However this species has the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the teeth of posterior margin of hypopygium almost evenly thick, the inner margin of ventral arm not angulate, the digitus long, the apical lobe of aedeagus long, the apical lobe of aedeagus with fold in inner margin present, whereas *E. sp. nov. 4* has the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the teeth of posterior margin of hypopygium narrowing toward apex, the inner margin of ventral arm angulate, the digitus short, the apical lobe of aedeagus short, the apical lobe of aedeagus with fold in inner margin absent.

***Eupsenella sp. nov. 7***

(Figs 15, 60, 105)

**Description.** Holotype. Female. Body length 8.33 mm. LFW 5.23 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula dark castaneous; wing venation castaneous; coxae dark castaneous almost black; trochanters castaneous; femora castaneous; tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 15). Head as long as wide, subrectangular in profile; gena without concavity in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus polished, median clypeal lobe truncate, median concavity of median clypeal lobe absent,  $0.06 \times LH$ , well marked off from frons, median carina absent. Malar space inconspicuous,  $0.13 \times$  mandibular base. Antenna 2.38 mm; first five antennomeres in ratio of about 13:13:13:12:12; flagellomere I  $3.25 \times$  longer than wide, flagellar pubescence sparse, with many outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.19 \times LH$ . Eye not protuberant,  $0.40 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons polished. WH  $0.94 \times LH$ . WF  $0.75 \times WH$ . WF  $1.67 \times HE$ . OOL  $0.86 \times WOT$ . VOL  $0.6 \times HE$ . Distance from posterior ocellus to vertex crest  $0.5 \times DAO$ . Ocelli small, DAO  $0.06 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $3.33 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.27 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina angulate, low.

**Mesosoma** (Fig. 60). Pronotal collar regular-sized. Pronotal disc polished, long,  $0.58 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc with short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $0.75 \times$  length pronotal disc. Scutellum polished,  $0.7 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $10.5 \times$  its own diameter. Polished and shining inside. Metanotum with median region almost flat, coriaceous-punctulate, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.49 \times$  length propodeal disc, incomplete posterad; discal carina  $0.23 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture wholly conspicuous; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 105) with 1M cell subpentagonal; 1M and 1R1 cells aligned basally; C cell widening distally; 1R1 cell present, slightly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.16 \times$  LFW; distal margin of Rsc angulate; r-rs vein inclined; R1b arching distally; Cub absent; Rs+M vein  $1.3 \times$  Rsa; M vein  $1.11 \times$  Rsa; Rsa slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with five distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.53 \times$  as wide as long. Metacoxa with median region  $0.5 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $4.73 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, N[ew] S[outh] W[ales], Lake George Ra. 18 km NbyW, Bungendore, 15 Feb[ruary] 1982, J.F.Lawrence & A.Calder, on *Xanthorrhoea australis*, ANIC. Paratypes. AUSTRALIA, N[ew] S[outh] W[ales], 3 females, Lake George Ra. 18 km NbyW, Bungendore, 15 Feb[ruary] 1982, J.F.Lawrence & A.Calder, on *Xanthorrhoea australis*, ANIC; 34.24S 149.23E, 1 female, Whiskers 7 Km WNW of Hoskinstown, 27 Oct[ober] 1992, M.S.Upton, ANIC; A[ustralian] C[apital] T[erritory], 3 females, Black M[oun]t[ain], I.D.Naumann, J. C. Cardele & M. E. Matthews, Malaise Trap, ex[tracted] ethanol; 3 females, 1–15 Mar[ch] 1980, D.H.Colless, Malaise Site 2; 1 female, 1–11 Apr[il] 1980, D.H.Colless, Malaise Site 2; 1 female, 12–30 Apr[il], D.H.Colless,

Malaise Site 2, ANIC; Canberra, 1 female, 18 Feb[ruary] 1982, E. McC. Callan, ex[tracted] ethanol; 2 females, 23 July 1948, wings ant slide, ANIC; 35.195S 148.51E, 1 female, Wombat C[ree]k., 750 m 6 Km E Piccadilly Circus, Mar[ch] 1985, Lawrence, Weil, Johnson, flight intercept/window trough trap, ANIC; 35.22S 149.05E, 1 female, (Farrer), 28 Aug[ust] 1982, D.C.F.Rentz, ANIC.

**Distribution.** Australia.

**Variation.** Body length 7.14–9.04 mm; LFW 4.76–5.24 mm; pronotal disc ill-defined to well-defined; parapsidal furrow inconspicuous; median carina slightly longer than half length of pronotal disc to complete (when it reaches the propodeal declivity).

**Remarks.** This species is similar to *E. ceciliae* Terayama by having the body robust, the clypeus projected without median carina and the Rsb of forewing almost straight. However this species has the clypeus broadly truncate, the eyes not protuberant, the vertex crest straight, the pronotal disc with anterior median pit, whereas has the clypeus truncate, the eyes protuberant, the vertex crest strongly concave, the pronotal disc without anterior median pit.

### *Eupsenella* sp. nov. 8

(Figs 16, 61, 106)

**Description.** Holotype. Female. Body length 9.8 mm. LFW 5.14 mm.

**Color.** Head dark castaneous almost black; scape dark castaneous; pedicel, flagellum and mandible castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula dark castaneous; wing venation predominantly light castaneous with veins darkening apicad; procoxa and mesocoxa dark castaneous almost black; metacoxa dark castaneous; trochanters castaneous; profemur dark castaneous almost black; mesofemur castaneous; metafemur dark castaneous; tarsi dark castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 16). Head wider than long, subtriangular in profile; gena without concavity in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus polished, median clypeal lobe truncate, median concavity of median clypeal lobe absent,  $0.07 \times LH$ , well marked off from frons, median carina absent. Malar space conspicuous,  $0.41 \times$  mandibular base, not carinate. Antenna 2.33 mm; first five antennomeres in ratio of about 14:14:14:14:14; flagellomere I  $1.4 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye straight. Area between the anterior

margin of eyes and demarkation of median clypeal lobe  $0.17 \times LH$ . Eye protuberant,  $0.55 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.1 \times LH$ . WF  $0.69 \times WH$ . WF  $1.41 \times HE$ . OOL  $0.8 \times WOT$ . VOL  $0.3 \times HE$ . Distance from posterior ocellus to vertex crest  $0.5 \times DAO$ . Ocelli small, DAO  $0.07 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $4.5 \times DAO$ , anterior ocellus surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.21 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 61). Pronotal collar regular-sized. Pronotal disc coriaceous-punctate, long,  $0.5 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $0.90 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.81 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $9.0 \times$  its own diameter. Metanotum with median region almost flat, coriaceous-puncticulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.75 \times$  length propodeal disc, incomplete posterad; discal carina  $0.20 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina imbricate and confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture wholly conspicuous; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 106) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* convex; 2R1 cell  $0.15 \times LFW$ ; distal margin of *Rsc* convex; r-rs vein inclined; *R1b* entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $0.60 \times Rsa$ ; *M* vein  $1.6 \times Rsa$ ; *Rsa* slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with five distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur very swollen,  $0.68 \times$  as wide as long. Metacoxa with median region  $0.7 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $5.0 \times$  as wide as long, ventral carina of petiole present.



**Material examined.** Holotype. AUSTRALIA, A[ustralia] C[apital] T[erritory], 35.35S 149.00E, Honeysuckle Creek, 23 Apr[il] – 8 May 1985, I.D.Naumann & J.C.Cardale, Malaise trap/ethanol, ANIC. Paratypes. AUSTRALIA, Q[ueens]L[an]d, 1 female, 26.50S 151.33E, Burtons Well, Bunya M[oun]t[ain]s Nat[ional] P[ar]k, 6–7 Oct[ober] 1984, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol; 1 female, 26.52S 151.34E, n[ear] Westcott Plain, I.D.Naumann & J.C.Cardale, Malaise/ex[tracted] ethanol, ANIC; N[ew] S[outh] W[ales], 1 female, Coocumbac I[sland]s, Natural Reserve, Taree, 1–8 Dec[ember] 1994, G.&T.Williams, ex[tracted] floodplain/rainforest, ANIC; A[ustralia] C[apital] T[erritory], 1 female, Weston, 13 June 1981, T. E. Bellas, ANIC; 1 female, Black M[oun]t[ai]n, 1–6 Jan[uary] 1980, Malaise Site 1, D.H.Colless, ANIC, 1 female, Mar[ch] 1982, Malaise Trap, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol, ANIC; 1 female, 12–30 Apr[il] 1980, Malaise Site 2, D.H.Colless, ANIC; 1 female, Dec[ember] 1982, I.D.Naumann & J.C.Cardale, Malaise trap/ethanol, ANIC; 1 female, 35.16S 149/149.10E, M[oun]t[ain] Ainslie, June 1991, under bark, C. Reid, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.52–8.57 mm; LFW 4.04–5.00 mm; clypeus and pronotal disc short to moderately long.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 7 by having the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the clypeus with median clypeal lobe truncate and without median carina. However this species has the vertex crest slightly concave, the head nearly subtriangular in profile, the eyes large, the pronotal disc without anterior median pit, apical margin of pronotal disc nearly straight, whereas *Eupsenella* sp. nov. 7 has the vertex crest slightly convex, the head not subtriangular in profile, the eyes smaller, the pronotal disc with anterior median pit, the apical margin of pronotal disc convex.

### ***Eupsenella* sp. nov. 9**

(Figs 17, 62, 107)

**Description.** Holotype. Female. Body length 5.2 mm. LFW 3.86 mm.

**Color.** Head dark castaneous; scape light castaneous; pedicel light castaneous; flagellum light castaneous; mandible light castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous; tegula, wing venation light castaneous, coxae, trochanters, femora light castaneous and tarsi light castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 17). Head longer than wide, subrectangular in profile; gena without concavity in profile. Mandible evenly wide, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.01 \times LH$ , well marked off from frons, median carina present,  $0.12 \times LH$ . Malar space inconspicuous,  $0.13 \times$  mandibular base. Antenna 1.43 mm; first five antennomeres in ratio of about 8:10:10:10:10; flagellomere I  $1.25 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.05 \times LH$ . Eye not protuberant,  $0.47 \times LH$ , with sparse hairs, located more dorsally, lower margin without strong depression. Frons coriaceous.  $WH 0.81 \times LH$ .  $WF 0.57 \times WH$ .  $WF 1.0 \times HE$ .  $OOL 1.17 \times WOT$ .  $VOL 0.67 \times HE$ . Distance from posterior ocellus to vertex crest  $1.5 \times DAO$ . Ocelli large,  $DAO 0.14 \times WF$ , ocellar triangle compact, distance between posterior ocelli  $0.8 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus distant from vertex. Vertex straight, short setae,  $0.12 \times LH$ , temple profile approximately parallel in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, high.

**Mesosoma** (Fig. 62). Pronotal disc coriaceous-punctate,  $0.35 \times$  as long as wide, anterior corner angulate, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $0.96 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.87 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $10.0 \times$  its own diameter. Dorsal axillar surface with fovea almost circular. Metanotum with median region almost flat, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc as long as wide; anterior margin without foveolate or transverse furrow; median carina  $0.83 \times$  length propodeal disc, incomplete posterad; discal carina  $0.65 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina imbricate and confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesospectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 107) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, slightly longer than 2R1 cell, evenly wide; *Rsb* straight; 2R1 cell  $0.18 \times LFW$ ; distal margin of *Rsc* convex; *r-rs* vein strongly inclined; *R1b*

entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $0.90 \times Rsa$ ; *M* vein  $1.5 \times Rsa$ ; *Rsa* subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.43 \times$  as wide as long. Metacoxa with median region  $0.86 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $2.59 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, Q[ueensland], 19.00S 146.12E, Paluma, 900 m, 25 Oct[ober] – 3 Nov[ember] 1980, D.Frith, Malaise Trap, ANIC. Paratypes. AUSTRALIA, Q[ueensland], 19.00S 146.12E, 2 females, Paluma, 900 m, 25–31 Oct[ober] 1980, D.Frith, Malaise Trap, ANIC.

**Distribution.** Australia.

**Variation.** Body length 3.71–4.05 mm; LFW 3.57–4.05 mm; distance between posterior ocelli slightly larger than diameter of anterior ocelli.

**Remarks.** This species is very different from the others by having the head elongate, the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the ocellar triangle compact and the eyes more dorsally located.

### *Eupsenella* sp. nov. 10

(Figs 18, 63, 108)

**Description.** Holotype. Female. Body length 7.6 mm. LFW 4.91 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula and wing venation light castaneous; procoxa dark castaneous almost black; mesocoxa, metacoxa, trochanters, femora and tarsi castaneous; metasoma dark castaneous with last tergite light castaneous.

**Head** (Fig. 18). Head longer than wide, subtriangular in profile; gena without concavity in profile. Mandible with base wider than apex, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus imbricate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.06 \times LH$ , well marked off from frons, median carina present,  $0.14 \times LH$ . Malar space conspicuous,  $0.23 \times$  mandibular base. Antenna 2.15 mm; first five antennomeres in ratio of about 14:13:13:13:13; flagellomere I  $1.2 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and

demarcation of median clypeal lobe  $0.20 \times \text{LH}$ . Eye not protuberant,  $0.48 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate.  $\text{WH } 0.93 \times \text{LH}$ .  $\text{WF } 0.64 \times \text{WH}$ .  $\text{WF } 1.3 \times \text{HE}$ .  $\text{OOL } 1.14 \times \text{WOT}$ .  $\text{VOL } 0.43 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.5 \times \text{DAO}$ . Ocelli large,  $\text{DAO } 0.13 \times \text{WF}$ , ocellar triangle compact, distance between posterior ocelli  $2.2 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.29 \times \text{LH}$ , temple profile approximately parallel in dorsal view, with corner angulate, not projected postero-laterad. Hipostomal carina straight, low.

**Mesosoma** (Fig. 63). Pronotal disc coriaceous-punctate,  $0.4 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $0.88 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.65 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $10.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, foveolate, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.95 \times$  length propodeal disc, complete posterad; discal carina  $0.67 \times$  length propodeal disc, straight, followed by depressed narrow area, foveolate; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture absent. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 108) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* straight; 2R1 cell  $0.15 \times \text{LFW}$ ; distal margin of *Rsc* convex; r-rs vein strongly inclined; Costal cell widening distally; *R1b* entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $1.75 \times \text{Rsa}$ ; *M* vein  $1.67 \times \text{Rsa}$ ; *Rsa* subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.48 \times$  as wide as long. Metacoxa with median region  $0.85 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $3.0 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, Tas[mania], 41.14S 147.56E, 4 Km SE, Weldborough, 13 Jan[uary] – 7 Feb[ruary] 1983, I.D.Naumann & J.C.Cardale, pan trap, ANIC. Paratypes. ASTRALIA, N[ew] S[outh] W[ales], 35.31S 150.00E, 1 female, Clyde Mountain, 13 Oct[ober] 1986, ANIC; A[ustralia] C[apital] T[erritory], 1 female, M[oun]t[ain] Gingera, 18 Feb[ruary] 1981, A.Calder, ANIC Berlesates 699–704 litter, moss., ex[tracted] ethanol, ANIC; Tas[mania], 1 female, 43.09S 146.47E, Keoghs Road, Hartz M[oun]t[ain]s, 4 Feb[ruary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol, ANIC; 1 female, 43.21S 147.13E, M[oun]t[ain] Mangana, Bruny I[sland], 4 Apr[il] 1999, J.Diggle, P.Greenslade Site 1, celery top pine pyrethrin Knockdown, ANIC; 1 female, 41.14S 147.56E, 4 Km SE, Tas[mania], Weldborough, 13 Jan[uary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol; 1 female, 29 Jan[uary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol; 1 female, 13 Jan[uary] – 7 Feb[ruary] 1983, I.D.Naumann & J.C.Cardale, Malaise/ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.86–7.14 mm; LFW 3.76–4.54 mm; discal carina less than half length of propodeal disc; color of posterior tergites of metasoma castaneous to dark castaneous; *Cub* of forewing present, but almost vestigial.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 8 by having the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the head with large eyes and subtriangular in profile. However this species has the median carina of clypeus extending to the frons, the median clypeal lobe angulate, the gena strongly concave in profile, whereas *Eupsenella* sp. nov. 8 has the median clypeal lobe truncate without median carina, the gena weakly concave in profile.

### ***Eupsenella* sp. nov. 11**

(Figs 19, 64, 109)

**Description.** Holotype. Female. Body length 7.3 mm. LFW 4.23 mm.

**Color.** Head dark castaneous; scape dark castaneous; pedicel, flagellum and mandible castaneous; palpi light castaneous; mesosoma dark castaneous; tegula and wing venation castaneous; coxae dark castaneous; trochanters castaneous; femora dark castaneous; tarsi light castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 19). Head as long as wide, subtriangular in profile; gena without concavity in profile. Mandible with base wider than apex, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.07 \times \text{LH}$ , well marked off from frons, median carina present,  $0.23 \times \text{LH}$ . Malar space conspicuous,  $0.23 \times$  mandibular base. Antenna 2.0 mm; first five antennomeres in ratio of about 14:14:13:13:13; flagellomere I  $0.7 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.13 \times \text{LH}$ . Eye protuberant,  $0.55 \times \text{LH}$ , with dense hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times \text{LH}$ . WF  $0.62 \times \text{WH}$ . WF  $1.14 \times \text{HE}$ . OOL  $0.75 \times \text{WOT}$ . VOL  $0.29 \times \text{HE}$ . Ocelli small, DAO  $0.10 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $3.0 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus reaching vertex. Vertex straight, long setae,  $0.31 \times \text{LH}$ , temple profile approximately parallel in dorsal view, with corner angulate, slightly projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 64). Pronotal disc coriaceous-punctate,  $0.47 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $0.92 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.75 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $11.0 \times$  its own diameter. Dorsal axillar surface with fovea subrectangular. Metanotum with median region almost flat, coriaceous-puncticulate, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.97 \times$  length propodeal disc, complete posterad; discal carina  $0.75 \times$  length propodeal disc, surpassing half length of propodeal disc, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture wholly conspicuous, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 109) with 1M cell subrectangular; 1M and 1R1 cells aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, wider medially; Rsb convex; 2R1 cell  $0.13 \times \text{LFW}$ ; distal margin of Rsc convex; r-rs vein inclined; R1b

entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $0.85 \times Rsa$ ; *M* vein  $1.0 \times Rsa$ ; *Rsa* subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.55 \times$  as wide as long. Metacoxa with median region  $0.55 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $3.56 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, A[ustralia] C[apital] T[erritory], 33.19S 148.51E, Wombat C[ree]k., 6 Km NE of Piccadilly Circus, 750 m, Feb[ruary] 1984 Weir, Lawrence, Johnson, Flight Intercept/window trough trap, ANIC. Paratypes. AUSTRALIA, Q[ueensland], 1 female, 19.00S 146.12E, Paluma, 900 m, 11–15 June 1980, D. W. Frith, Malaise Trap, ANIC; A[ustralia] C[apital] T[erritory], 2 females, Black M[oun]t[ain], 9–16 Nov[ember] 1979, Malaise Site 2, D.H.Colless, ANIC; 1 female, 1–6 Jan[uary] 1980, Malaise Site 1, D.H.Colless; 2 females, 7–31 Jan[uary] 1980, Malaise Site 1, D.H.Colless; 4 females, 4–7 Feb[ruary] 1980, Malaise Site 2, D.H.Colless; 1 female, 18–29 Feb[ruary] 1980, D.H.Colless; 1 female, 12–30 Apr[il] 1980, Malaise Site 2, D.H.Colless, ANIC; A[ustralia] C[apital] T[erritory], 3 females, 35.19S 148.51E, Wombat C[ree]k., 6 Km NE of Piccadilly Circus, 850 m, Feb[ruary] 1984, Weir, Lawrence, Johnson, Flight Intercept/window trough trap, ANIC; 1 female, 750 m, Feb[ruary] 1984, Weir, Lawrence, Johnson, Flight Intercept/window trough trap, ANIC; 1 female, 750 m, Feb[ruary] 1985, Weir, Lawrence, Johnson, Flight Intercept/window trough trap, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.76–7.85 mm; LFW 4.04–4.29 mm; setae of body dense to very dense; clypeus slightly projected; discal carina of propodeal disc with posterior region straight.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 8 by having the head subtriangular in profile, the eyes large, the clypeus with median clypeal lobe with median carina present. However this species has the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the gena not clearly concave in profile and the discal carina of propodeal disc almost as long as median carina, whereas *Eupsenella* sp. nov. 8 has the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the gena clearly concave in profile and the discal carina of propodeal disc almost absent.

***Eupsenella* sp. nov. 12**

(Figs 20, 65, 110)

**Description.** Holotype. Female. Body length 9.9 mm. LFW 5.48 mm.

**Color.** Head dark castaneous almost black; scape dark castaneous; pedicel and flagellum castaneous; mandible dark castaneous; palpi castaneous; mesosoma dark castaneous almost black; tegula and wing venation dark castaneous; coxae dark castaneous almost black; trochanters dark castaneous; femora and tarsi castaneous; metasoma dark castaneous almost black.

**Head** (Fig. 20). Head wider than long, subtriangular in profile; gena without concavity in profile. Mandible with base wider than apex, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.15 \times \text{LH}$ , well marked off from frons, median carina present,  $0.1 \times \text{LH}$ . Malar space conspicuous,  $0.42 \times$  mandibular base. Antenna 2.38 mm; first five antennomeres in ratio of about 14:14:14:14:14; flagellomere I  $1.28 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times \text{LH}$ . Eye not protuberant,  $0.40 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.06 \times \text{LH}$ . WF  $0.66 \times \text{WH}$ . WF  $1.53 \times \text{HE}$ . OOL  $1.2 \times \text{WOT}$ . VOL  $0.67 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $1.5 \times \text{DAO}$ . Ocelli small, DAO  $0.10 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $3.0 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus distant from vertex. Vertex straight, long setae,  $0.18 \times \text{LH}$ , temple profile approximately parallel in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina angulate, high.

**Mesosoma** (Fig. 65). Pronotal disc coriaceous-punctate,  $0.36 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli parallel to each other. Mesoscutum  $1.1 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.0 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $11.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, foveolate, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.83 \times$  length propodeal disc, incomplete posterad; discal carina  $0.31 \times$  length propodeal disc, converging posterad, straight; followed by depressed narrow area,



foveolate, median and discal carina disc predominantly slightly confused-rugulose. Lateral of propodeum predominantly coriaceous, anterior region with pits upper one shallower than the others. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 110) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* straight; *Cub* present and vestigial; 2R1 cell  $0.16 \times$  LFW; distal margin of *Rsc* convex; r-rs vein strongly inclined; *R1b* arching distally; *Cub* absent; *Rs+M* vein  $1.60 \times$  *Rsa*; *M* vein  $1.44 \times$  *Rsa*; *Rsa* subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with five distal hamuli, last hamulus adjacent each other.

**Legs.** Profemur swollen,  $0.5 \times$  as wide as long. Metacoxa with median region  $0.75 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $3.14 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, Tas[mania], 43.25S 146.10E, Melaleuca, Bathurst, Harbour, 12–17 Feb[ruary] 1960, I.D.Naumann, trays at base of Malaise; margin *Leptospermum* scrubs heathy sedgeland, ANIC.

**Distribution.** Australia.

**Remarks.** This species is very different from the others by having the head rectangular in profile, the median clypeal lobe projected, the median carina of propodeal disc slightly longer than half length of propodeal disc, the *Cub* of forewing long and the *R1b* of forewing strongly arching distally.

### ***Eupsenella* sp. nov. 13**

(Figs 21, 66, 111)

**Description.** Holotype. Female. Body length 6.14 mm. LFW 4.43 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible with body almost dark castaneous and only apex castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation dark castaneous; procoxa dark castaneous almost black; mesocoxa and metacoxa castaneous; trochanters light castaneous; profemur dark

castaneous almost black; mesofemur and metafemur dark castaneous; tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 21). Head longer than wide, globoid in profile; gena without concavity in profile. Mandible with base wider than apex, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe subangulate, median concavity of median clypeal lobe absent,  $0.09 \times \text{LH}$ , well marked off from frons, median carina present,  $0.13 \times \text{LH}$ . Malar space inconspicuous,  $0.15 \times$  mandibular base. Antenna 1.43 mm; first five antennomeres in ratio of about 8:9:9:9:9; flagellomere I  $1.29 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.11 \times \text{LH}$ . Eye not protuberant,  $0.43 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $0.92 \times \text{LH}$ . WF  $0.59 \times \text{WH}$ . WF  $1.3 \times \text{HE}$ . OOL  $1.14 \times \text{WOT}$ . VOL  $0.5 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.5 \times \text{DAO}$ . Ocelli small, DAO  $0.10 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $3.5 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex convex, long setae,  $0.33 \times \text{LH}$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina angulate, low.

**Mesosoma** (Fig. 66). Pronotal disc coriaceous-punctate,  $0.42 \times$  as long as wide, anterior corner angulate, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part, complete, parallel. Mesoscutum  $0.92 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.75 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $15.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, coriaceous-punctulate, lower than scutellum in profile, with fovea oval laterally. Propodeal disc as long as wide; anterior margin without foveolate or transverse furrow; median carina  $0.77 \times$  length propodeal disc, incomplete posterad,  $0.38 \times$  length of propodeal disc; discal carina  $0.29 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina imbricate and confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe conspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 111) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* straight; 2R1 cell  $0.15 \times$  LFW; distal margin of *Rsc* convex; r-rs vein inclined; *R1b* entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $1.3 \times$  *Rsa*; *M* vein  $1.0 \times$  *Rsa*; *Rsa* slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus adjacent each other.

**Legs.** Profemur very swollen,  $0.67 \times$  as wide as long. Metacoxa with median region  $0.5 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $4.3 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, S[outh] A[ustralia], 33.40S 136.54E, 2 Km NE Cowell, 27 Nov[ember] 1992, I.D.Naumann & J.C.Cardale, Malaise/ethanol, ANIC. Paratype. AUSTRALIA, W[estern] A[ustralia], 1 female, 33.43S 119.45E, 22 Sept[ember] 1981, West R[oad] 30 Km SW by W.Ravensthorpe, I.D.Naumann & J.C.Cardale, Malaise/ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.76–5.24 mm; LFW 2.86–4.10 mm; median carina of clypeus strongly convex in profile; *Cub* of forewng very short, but present; lateral margin of pronotal disc approximately straight.

**Remarks.** This species is similar to *E. diemenensis* by having the median clypeal lobe angulate, the notauli slightly convergent posterad, the propodeal disc confused-rugulose and the *R1b* of forewing entirely on anterior margin of forewing. However this species has the head with vertex crest clearly convex, the propodeal disc with discal carina very short, almost inconspicuous and median carina short (less than half length disc), whereas *E. diemenensis* has the head with vertex crest slightly convex (almost straight), the propodeal disc with discal carina long (more than half length disc).

### ***Eupsenella* sp. nov. 14**

(Figs 22, 67, 112)

**Description.** Holotype. Female. Body length 7.2 mm. LFW 3.67 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible light castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation dark castaneous; procoxa castaneous; mesocoxa, metacoxa and

trochanters light castaneous; profemur dark castaneous; mesofemur light castaneous; metafemur castaneous; tarsi light castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 22). Head longer than wide, globoid in profile; gena without concavity in profile. Mandible evenly wide, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.10 \times LH$ , well marked off from frons, median carina present,  $0.15 \times LH$ . Malar space conspicuous,  $0.22 \times$  mandibular base. Antenna 1.67 mm; first five antennal sections in ratio of about 10:9:9:9:9; flagellomere I  $1.0 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.07 \times LH$ . Eye protuberant,  $0.55 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate.  $WH 0.91 \times LH$ .  $WF 0.62 \times WH$ .  $WF 1.19 \times HE$ .  $OOL 1.0 \times WOT$ .  $VOL 0.27 \times HE$ . Distance from posterior ocellus to vertex crest  $0.5 \times DAO$ . Ocelli large,  $DAO 0.13 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $2.2 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.39 \times LH$ , temple profile slightly convergent in dorsal view, with corner angulate, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 67). Pronotal disc confused-rugulose,  $0.44 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli parallel to each other. Mesoscutum  $1.1 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.0 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit almost circular, narrowed, distant each other  $8.34 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.70 \times$  length propodeal disc, incomplete posterad, discal carina  $0.29 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 112) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* convex; 2R1 cell  $0.15 \times$  LFW; distal margin of *Rsc* convex; r-rs vein strongly inclined; *R1b* entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $1.0 \times$  *Rsa*; *M* vein  $0.83 \times$  *Rsa*; *Rsa* subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.5 \times$  as wide as long. Metacoxa with median region  $0.54 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.27 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, Q[ueens]l[an]d, 18.55S 146.10E, 880 m, S 2 M[oun]t[ain] Spec, 9 Mar[ch] 6 Apr[il] 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, 10 m, ANIC. Paratypes. AUSTRALIA, Q[ueens]l[an]d, 1 female, 19.00S 146.11E, S1 M[oun]t[ain] Spec, 10 Jan[uary] – 6 Feb[ruary] 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, (West), ANIC; 2 females, 9 Mar[ch] – 6 Apr[il] 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, (East); 1 female, 5 m, ANIC; 1 female, 6 Apr[il] – 8 May 1995, M.Cermak, Malaise trap; 1 female, M.Cermak, F[light] I[ntercept] Trap, JCU, (East), ANIC; 1 female, 8 May – 5 June 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, (East), ANIC; 1 female, 5 June – 3 July 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, (West), ANIC; 1 female, 6 Dec[ember] 1994 – 10 Jan[uary] 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, 10 m; 1 female, ANIC; 1 female, 18.55S 146.10E, 880 m, S2 M[oun]t[ain] Spec, 9 Mar[ch] – 6 Apr[il] 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, 10 m; 1 female, 6 Apr[il] – 8 May 1995, M.Cermak, Malaise trap; 1 female, 3–31 July 1995, M.Cermak, Malaise trap; 1 female, 6 Dec[ember] 1994 – 10 Jan[uary] 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, (West); 1 female, S3 M[oun]t[ain] Spec, 8 May – 5 June 1995, M.Cermak, F[light] I[ntercept] Trap, JCU, (West), ANIC; 1 female, 17.37S 145.34E, 1000 m, BS3 Massey Cr[ee]k, 1 Dec[ember] 1994 – 3 Jan[uary] 1995, P.Zoborowski, Malaise trap; 1 female, F[light] I[ntercept] Trap, ANIC; 2 females, 3 Jan[uary]– 4 Feb[ruary] 1995, Malaise trap, ANIC; 1 female, 17.28S 145.29E, 1150 m, BS1, Longlands Gap, 2 May – 1 June 1995, P.Zoborowski, Malaise trap, ANIC; 2 females, 1 Dec[ember] 1994 – 3 Jan[uary] 1995, P.Zoborowski, F[light] I[ntercept] Trap, JCU, (West); ANIC; 2 females, 1 Dec[ember] 1994 – 3 Jan[uary] 1995, P.Zoborowski, F[light] I[ntercept] Trap, ANIC; 2 females, 17.06S 145.36E, 1150 m, GS1, M[oun]t[ain] Haig, 17 Mar[ch] – 6 Apr[il] 1995 P.Zoborowski, Malaise trap, ANIC; 1 female, 16.30S 145.16E, 9 Km N, M[oun]t[ain] Lewis, 30 Jan[uary] 1998, D.C.F.Rentz, StopA-10, ANIC; N[ew] S[outh] W[ales], 1 female, 28.22S

153.05E, Brindle Creek, Border Rangers, NP, 3–14 Oct[ober] 1984, I.Naumann, J.Cardale, Malaise trap/ethanol, ANIC; 1 female, 28.29S 152.24E, Tooloom Plateau, 14 Km W Urbenville, 4–14 Oct[ober] 1984, I.Naumann, J.Cardale, Malaise trap/ethanol, ANIC; Tas[mania], 1 female, 41.14S 147.56E, 4 Km SE, Weldborough, 13 Jan[uary] – 7 Feb[ruary] 1983, I.D.Naumann & J.C.Cardale, Malaise/ethanol, ANIC; 1 female, 4 Km E Rosebery, 16 Jan[uary] – 1 Feb[ruary] 1983, I.D.Naumann & J.C.Cardale, Malaise/ethanol, ANIC; 2 females, Eugena, 8 Apr[il] 1988, L. Hill, *Euc[alyptus] viminalis*, forest, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.61–6.20 mm; LFW 3.33–4.04 mm; head with many hairs; clypeus slightly projected; metasoma dark castaneous.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 11 by having the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the head subtriangular in profile and vertex straight, the eyes large, the median clypeal lobe angulate. However this species has the median carina of propodeal disc not reaching propodeal declivity, discal carina of propodeal disc short, the Rsc of forewing with distal region subperpendicular, whereas *Eupsenella* sp. nov. 11 has the median carina of propodeal disc reaching propodeal declivity, discal carina of propodeal disc long, the Rsc of forewing with distal region slightly convex.

### ***Eupsenella* sp. nov. 15**

(Figs 23, 68, 113)

**Description.** Holotype. Female. Body length 6.52 mm. LFW 3.81 mm.

**Color.** Head dark castaneous; scape, pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous; tegula and wing venation castaneous; coxae dark castaneous; trochanters castaneous; profemur dark castaneous; mesofemur, metafemur and tarsi castaneous; metasoma dark castaneous.

**Head** (Fig. 23). Head longer than wide, globoid in profile; gena without concavity in profile. Mandible evenly wide, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.09 \times LH$ , well marked off from frons, median carina present,  $0.2 \times LH$ . Malar space conspicuous,  $0.43 \times$  mandibular base. Antenna 1.33 mm; first five antennomeres in ratio of about

11:11:11:11:10; flagellomere I  $1.57 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.17 \times$  LH. Eye not protuberant,  $0.42 \times$  LH, with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $0.88 \times$  LH. WF  $0.64 \times$  WH. WF  $1.27 \times$  HE. OOL  $1.17 \times$  WOT. VOL  $0.55 \times$  HE. Distance from posterior ocellus to vertex crest  $1.0 \times$  DAO. Ocelli small, DAO  $0.09 \times$  WF, ocellar triangle not compact, distance between posterior ocelli  $2.75 \times$  DAO, anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.36 \times$  LH, temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina straight, low.

**Mesosoma** (Fig. 68). Pronotal disc coriaceous-punctate,  $0.44 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli parallel to each other. Mesoscutum  $0.95 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.95 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $11.5 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.75 \times$  length propodeal disc, incomplete posterad; discal carina  $0.25 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesospectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 113) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.15 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; Costal cell widening distally; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.67 \times$  Rsa; M vein  $1.6 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.55 \times$  as wide as long. Metacoxa with median region  $0.57 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.29 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, Tas[mania], 41.20S 147.50E, M[oun]t[ain] Victoria, 900 m, 23 Nov[ember] 1989, R. Coy, Tree 3, pyrethrin Knockdown, ANIC. Paratypes. AUSTRALIA, Tas[mania], 4 females, 41.14S 147.56E, 4 Km SE Weldborough, 13 Jan[uary] – 7 Feb[ruary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] pan trap, ANIC; 1 female, 41.20S 147.50E, 24 Nov[ember] 1989, M[oun]t[ain] Victoria, 900 m, H. Mitchell, Tree 1, pyrethrin Knockdown, ANIC; 1 female, 41.22S 147.24E, 10 Km ENE of Nunamara, 12 Jan[uary] – 6 Feb[ruary] 1983, I.D.Naumann & J.C.Cardale, Malaise/ethanol; 1 female, ex[tracted] pan trap, ANIC; 1 female, 41.23S 147.25E, M[oun]t[ain] Barrow, 11 Km E by N. Nunamara, 30 Jan[uary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol, ANIC; 1 female, 41.30S 145.20E, 20 Apr[il] 1989, Savage R., Pipeline R[oad], Site 3, *Nothofagus*, pyrethrin Knockdown, ANIC; 1 female, 41.35S 145.56E, 17 Nov[ember] 1989, R. Coy myrtle, pyrethrin Knockdown, ANIC; 2 females, 30 Nov[ember] 1990 – 8 Jan[uary] 1991, 41.50S 146.03E, Pelion Hut, 3 Km S M[oun]t[ain] Oakleigh, open forest, (W. E. B. S), Malaise, ANIC; 1 female, 42.13S 146.01E, Franklin R., 22 Jan[uary] 1983, I.D.Naumann & J.C.Cardale, ex. ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.04–5.24 mm; LFW 3.23–3.61 mm; pronotal disc short; lateral region of median carina of propodeal disc slightly depressed; median carina of propodeal disc short.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 14 by having the body texture coriaceous, the median clypeal lobe angulate, median carina of propodeal disc long, strongly high and discal carina of propodeal disc short. However this species has the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the eyes small, the ocelli small, the space between top of eye and vertex crest long, the *Rsb* of forewing approximately straight, whereas *Eupsenella* sp. nov. 14 has the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the eyes large, the ocelli large, the space between top of eye and vertex crest not too long, the *Rsb* of forewing slightly angulate medially.



***Eupsenella* sp. nov. 16**

(Figs 24, 69, 114)

**Description.** Holotype. Female. Body length 6.23 mm. LFW 4.52 mm.

**Color.** Head dark castaneous almost black; scape and pedicel dark castaneous; flagellum castaneous; mandible dark castaneous; palpi castaneous; mesosoma dark castaneous almost black; tegula and wing venation castaneous; procoxa dark castaneous; mesocoxa, metacoxa and trochanters castaneous; profemur dark castaneous; mesofemur, metafemur and tarsi castaneous; metasoma dark castaneous.

**Head** (Fig. 24). Head wider than long, subtriangular in profile; gena without concavity in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.06 \times \text{LH}$ , well marked off from frons, median carina present,  $0.20 \times \text{LH}$ . Malar space conspicuous,  $0.23 \times$  mandibular base. Antenna 2.38 mm; first five antennomeres in ratio of about 13:13:15:13:13; flagellomere I  $1.5 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae; anterior carina present. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.13 \times \text{LH}$ . Eye protuberant,  $0.72 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.12 \times \text{LH}$ . WF  $0.59 \times \text{WH}$ . WF  $1.06 \times \text{HE}$ . OOL  $0.67 \times \text{WOT}$ . VOL  $0.25 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.5 \times \text{DAO}$ . Ocelli large, DAO  $0.12 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $2.6 \times \text{DAO}$ , anterior ocellus surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex concave, long setae,  $0.20 \times \text{LH}$ , temple profile approximately parallel in dorsal view, with corner angulate, slightly projected postero-laterad. Hipostomal carina straight, low.

**Mesosoma** (Fig. 69). Pronotal disc coriaceous-punctate,  $0.42 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $1.24 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.86 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, dilated, distant each other  $13.3 \times$  its own diameter. Dorsal axillar surface with fovea subrectangular. Metanotum with median region high, coriaceous-puncticulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long;

anterior margin without foveolate or transverse furrow; median carina  $0.73 \times$  length propodeal disc, incomplete posterad; discal carina  $0.35 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesospectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 114) with 1M cell subtriangular; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* straight; 2R1 cell  $0.15 \times$  LFW. *Rsc* convex; *r-rs* vein inclined; *R1b* entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $1.1 \times$  *Rsa*; *M* vein  $1.14 \times$  *Rsa*; *Rsa* subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.47 \times$  as wide as long. Metacoxa with median region  $0.6 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.33 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, Q[ueens]l[an]d, 19.09 146.52E, Q[ueens]l[an]d, Arcadia Magnetic I[sland]s, 26–30 Sept[ember] 1998, RW Matthews, Mal[aise] T[rap], ANIC. Paratypes. AUSTRALIA, Q[ueens]l[an]d, 1 female, 19.09.S 146.52E, Arcadia Magnetic I[sland]s, 12 Sept[ember] 1998, Mal[aise] T[rap], ANIC; N[ew] S[outh] W[ales], 1 female, 0.5 Km SE of Lansdowne, ex[tracted] riverine rf, 10–17 Jan[uary] 1993, G.&T.Williams, ANIC; 1 female, 21–24 Nov[ember] 1994, Coocumbac I[sland], Taree, Manning Riv[er], riv[er] rainforest, G.&T.Williams, ANIC.

**Distribution.** Australia.

**Variation.** Body length 6.42–6.67 mm; LFW 4.29–4.76 mm; veins of forewing dark castaneous; 1M cell of forewing reduced.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 8 by having the head nearly subtriangular in profile, the eyes large, the pronotal disc without anterior median pit and apical margin nearly straight. However this species has the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the eyes protuberant, the median clypeal lobe angulate, with median carina, whereas *Eupsenella* sp. nov. 8 has the area between the anterior margin of eyes and demarkation of median

clypeal lobe long, the median clypeal lobe truncate, without median carina.

***Eupsenella* sp. nov. 17**

(Figs 25, 70, 115)

**Description.** Holotype. Female. Body length 6.0 mm. LFW 4.04 mm.

**Color.** Head greenish; scape, pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma greenish; tegula and venation castaneous; procoxa light castaneous; mesocoxa, metacoxa, trochanters, femora and tarsi light castaneous; metasoma castaneous.

**Head** (Fig. 25). Head as long as wide, globoid in profile; gena without concavity in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.03 \times \text{LH}$ , well marked off from frons, median carina present,  $0.22 \times \text{LH}$ . Malar space conspicuous,  $0.57 \times$  mandibular base. Antenna 1.55 mm; first five antennomeres in ratio of about 8:7:7:7:7; flagellomere I  $1.0 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae; anterior carina present. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.16 \times \text{LH}$ . Eye protuberant,  $0.53 \times \text{LH}$ , with dense hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times \text{LH}$ . WF  $0.61 \times \text{WH}$ . WF  $1.28 \times \text{HE}$ . OOL  $1.0 \times \text{WOT}$ . VOL  $0.45 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.25 \times \text{DAO}$ . Ocelli large, DAO  $0.16 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $1.60 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.22 \times \text{LH}$ , temple profile approximately parallel in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina, angulate, low.

**Mesosoma** (Fig. 70). Pronotal disc coriaceous-punctate,  $0.4 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $1.17 \times$  length pronotal disc texture of mesoscutum coriaceous-punctate. Scutellum coriaceous-punctate,  $0.95 \times$  length pronotal disc, convex in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $15.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-puncticulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider

than long; anterior margin without foveolate or transverse furrow; median carina  $0.71 \times$  length propodeal disc, incomplete posterad; discal carina  $0.29 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 115) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally. C cell widening distally; 1R1 present, distinctly longer than 2R1 cell, wider medially; *Rsb* convex; 2R1 cell  $0.15 \times$  LFW; distal margin of *Rsc* convex; r-rs vein inclined; *R1b* entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $1.2 \times$  *Rsa*; *M* vein  $1.29 \times$  *Rsa*; *Rsa* subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.41 \times$  as wide as long. Metacoxa with median region  $0.5 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.26 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, Q[ueens]l[an]d, 17.06S 145.36E, GS1, M[oun]t[ain] Haig, 1150 m, 6 Apr[il] – 4 May 1995, P.Zoborowski, Malaise trap, ANIC. Paratypes. AUSTRALIA, Q[ueens]l[an]d, 3 females, 17.06S 145.36E, GS1, M[oun]t[ain] Haig, 1150 m, 17 Mar[ch] – 6 Apr[il] 1995, P.Zoborowski, Malaise trap, ANIC; 1 female, 17.06S 145.37E, GS2, M[oun]t[ain] Edith, 1050 m, 6 Apr[il] – 4 May 1995, P.Zoborowski, Malaise trap, ANIC; 1 female, 17.27S 145.29E, 6 Mar[ch] – 4 Apr[il] 1995, 1150 m, GS3, Hugh Nelson Ra., ANIC; 1 female, 17.28S 145.29E, BS1, Longlands Gap, 4 Apr[il] – 2 May 1995, 1150 m, Malaise trap, ANIC; 1 female, 18.55S 146.09E, S3, M[oun]t[ain] Spec, 880 m, 6 Feb[ruary] – 9 Mar[ch] 1995, M.Cermak, Malaise trap; 2 females, 8 May – 5 June 1995, M.Cermak, Malaise trap, ANIC; 1 female, Pitfall trap, A1, ANIC; 1 female, 18.55S 146.10E, S2 M[oun]t[ain] Spec, 880 m, 9 Mar[ch] 6 Apr[il] 1995, M.Cermak, Malaise trap, ANIC; 1 female, 18.55S 146.10E, S2 M[oun]t[ain] Spec, 880 m, 8 May – 5 June 1995, M.Cermak, Malaise trap, ANIC; 1 female, 19.00S 146.11E, S1 M[oun]t[ain] Spec, 875 m, 6 Feb[ruary] – 9 Mar[ch] 1995, M.Cermak, Malaise trap, ANIC; 1 female, 19.00S 146.11E, Paluma, 25 Oct[ober] – 3 Nov[ember] 1980, D.Frith, Malaise Trap, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.53–5.00 mm; LFW 3.10–4.05 mm; head and mesosoma with many setae; median carina of propodeal disc long; legs light castaneous.

**Remarks.** This species is similar to *E. diemenensis* by having the median clypeal lobe angulate, the vertex crest straight, the pronotal disc short and the 2R1 cell of forewing subrectangular. However this species has the ocelli large, the propodeal disc without discal carina, median carina not reaching posterior carina, whereas *Eupsenella diemenensis* has the ocelli not too large, the propodeal disc with discal carina, median carina of propodeal disc reaching declivity region of posterior carina.

***Eupsenella* sp. nov. 18**

(Figs 26, 71, 116)

**Description.** Holotype. Female. Body length 6.81 mm. LFW 4.52 mm.

**Color.** Head dark castaneous almost black; scape dark castaneous; pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula dark castaneous; wing venation dark castaneous; procoxa dark castaneous almost black; mesocoxa and metacoxa dark castaneous; trochanters castaneous; femora dark castaneous; tarsi light castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 26). Head wider than long, subtriangular in profile; gena strongly concave in profile. Mandible evenly wide, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.09 \times LH$ , well marked off from frons, median carina present,  $0.26 \times LH$ . Malar space conspicuous,  $0.58 \times$  mandibular base. Antenna 2.0 mm; first five antennomeres in ratio of about 11:10:10:10:10; flagellomere I  $1.0 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae; anterior carina present. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.13 \times LH$ . Eye protuberant,  $0.55 \times LH$ , with dense hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate.  $WH 1.1 \times LH$ .  $WF 0.64 \times WH$ .  $WF 1.33 \times HE$ .  $OOL 0.86 \times WOT$ .  $VOL 0.42 \times HE$ . Distance from posterior ocellus to vertex crest  $0.5 \times DAO$ . Ocelli small,  $DAO 0.08 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $3.25 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.40 \times LH$ , temple profile

slightly convergent in dorsal view, with corner angulate, not projected postero-laterad. Hipostomal carina, angulate, low.

**Mesosoma** (Fig. 71). Pronotal disc coriaceous-punctate,  $0.43 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $1.18 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.95 \times$  length pronotal disc, almost flat in profile, scutellar pit elliptical, dilated, distant each other  $7.5 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-puncticulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.83 \times$  length propodeal disc, incomplete posterad; discal carina  $0.28 \times$  length propodeal disc, converging posterad, slightly arched; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe conspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture absent. Mesopectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 116) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 cell present, distinctly longer than 2R1 cell, wider medially; Rsb convex; 2R1  $0.16 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.3 \times$  Rsa; M vein  $1.17 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.56 \times$  as wide as long. Metacoxa with median region  $0.5 \times$  as wide as long. Metacoxal projection in dorsal region incospicuous, apex sharpened.

**Metasoma.**  $0.4 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, Tas[mania], 41.50S 146.03E, Pelion Hut, 3 Km S, M[oun]t[ain] Oakleigh, 5–10 Feb[ruary] 1990, I.D.Naumann, ANIC. Paratypes. AUSTRALIA, Tas[mania], 2 females, 41.50S 146.03E, Pelion Hut, 3 Km S, M[oun]t[ain] Oakleigh, open forest, (W. E. B. S.), Malaise 1, 4 Apr[il] – 15 May 1990, ANIC; 1 female, 43.25S 146.10E, Melaleuca, Bathurst Harbour, 12–17 Feb[ruary] 1990, I.D.Naumann, ANIC.

**Distribution.** Australia.

**Variation.** Body length 6.42–6.67 mm; LFW 4.76–5.00 mm; veins of forewing dark castaneous; legs castaneous; posterior tergites yellowish.

**Remarks.** This species has features common to most species of the genus by having the eyes large, the median clypeal lobe angulate, with median carina extending to the frons and vertex crest straight. However this species has the gena with strong and clear concavity which is visible in lateral view, and even more evident in ventral view.

***Eupsenella* sp. nov. 19**

(Figs 27, 72, 117)

**Description.** Holotype. Female. Body length 6.0 mm. LFW 4.1 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula light castaneous; wing venation dark castaneous; coxae, trochanters, femora and tarsi light castaneous; metasoma dark castaneous with last tergite light castaneous.

**Head** (Fig. 27). Head as long as wide, globoid in profile; gena without concavity in profile. Mandible evenly wide, lowermost tooth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity absent,  $0.04 \times LH$ , well marked off from frons, median carina present,  $0.1 \times LH$ . Malar space inconspicuous,  $0.14 \times$  mandibular base. Antenna 1.81 mm; first five antennal sections antennomeres in ratio of about 10:10:10:10:10; flagellomere I  $1.43 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae; anterior carina present. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.08 \times LH$ . Eye not protuberant,  $0.57 \times LH$ , with dense pilosity, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times LH$ . WF  $0.65 \times WH$ . WF  $1.15 \times HE$ . OOL  $1.33 \times WOT$ . VOL  $0.38 \times HE$ . Distance from posterior ocellus to vertex crest  $1.0 \times DAO$ . Ocelli large, DAO  $0.16 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $1.60 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus distant from vertex. Vertex straight, short setae,  $0.10 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina, angulate, low.

**Mesosoma** (Fig. 72). Pronotal disc coriaceous-punctate,  $0.51 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli parallel to each other. Mesoscutum  $1.6 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.2 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $12.5 \times$  its own diameter. Dorsal axillar surface with fovea almost circular. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.83 \times$  length propodeal disc, incomplete posterad; discal carina  $0.82 \times$  length propodeal disc, surpassing half length of propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 117) with 1M cell subpentagonal; 1M and 1R1 cells almost aligned basally; C cell widening distally; 1R1 cell present, slightly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.17 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $0.75 \times$  Rsa; M vein  $1.0 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.47 \times$  as wide as long. Metacoxa with median region  $0.62 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.35 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, Q[ueens]l[an]d, 17.06S 145.37E, 1050 m, GS2, M[oun]t[ain] Edith, 4 Feb[ruary] – 17 Mar[ch] 1995, P.Zoborowski, Malaise trap, ANIC. Paratypes. AUSTRALIA, Q[ueens]l[an]d, 1 female, 1150 m, GS1, M[oun]t[ain] Haig, 1 Dec[ember] 1994 – 3 Jan[uary] 1995, P.Zoborowski, Malaise trap; 1 female, 3 Jan[uary] – 4 Feb[ruary] 1995, P.Zoborowski, Malaise trap, ANIC; 17.06S 145.37E, 1050 m, GS2 M[oun]t[ain] Edith, 1 female, GS2, 1 Dec[ember] 1994 – 3 Jan[uary] 1995, P.Zoborowski, F[light] I[n]tercept trap, ANIC; 1 female, GS2, 1 Dec[ember] 1994 – 3 Jan[uary] 1995, Malaise trap, ANIC; 1 female, GS2, 17 Mar[ch] – 6 Apr[il] 1995, P.Zoborowski, Malaise trap, ANIC; 17.06E 146.36E, 1150 m, GS1, M[oun]t[ain] Haig, 1 female, 1



Dec[ember] 1994 – 3 Jan[uary] 1995, Malaise trap, ANIC; 1 female, 3 Jan[uary] – 4 Feb[ruary] 1995, Malaise trap, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.53–7.85 mm; LFW 4.28–4.76 mm; distance between posterior ocelli slightly larger than diameter of anterior ocelli; end of discal carina of propodeal disc converging posterad; legs light castaneous; metasoma elongate.

**Remarks.** This species is similar to *E. diemenensis* by having the head and mesosoma strongly coriaceous, the median clypeal lobe angulate, short and with median carina extending to frons, the pronotal disc short, the propodeal disc with lateral discal and median carina. However this species has the ocelli large, the ocellar triangle almost compact, the 1M cell of forewing almost subtriangular, whereas *E. diemenensis* has the ocelli not too large, the ocellar triangle not compact, the 1M cell of forewing subpentagonal.

### ***Eupsenella* sp. nov 20**

(Figs 28, 73, 118)

**Description.** Holotype. Female. Body length 6.26 mm. LFW 4.29 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; wing venation dark castaneous; procoxa dark castaneous almost black; coxae dark castaneous; trochanters, femora castaneous and tarsi castaneous; metasoma dark castaneous.

**Head** (Fig. 28). Head wider than long, subtriangular in profile; gena weakly concave in profile. Mandible with base wider than apex, lowermost tooth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe subangulate, median concavity of median clypeal lobe absent,  $0.09 \times \text{LH}$ , well marked off from frons, median carina present,  $0.1 \times \text{LH}$ . Malar space conspicuous,  $0.21 \times$  mandibular base. Antenna 1.76 mm; first five antennomeres in ratio of about 11:11:11:11:11; flagellomere I  $1.57 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.12 \times \text{LH}$ . Eye protuberant,  $0.57 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.18 \times \text{LH}$ . WF  $0.62 \times \text{WH}$ . WF  $1.14 \times \text{HE}$ . OOL  $1.0 \times$

WOT. VOL  $0.29 \times$  HE. Distance from posterior ocellus to vertex crest  $0.33 \times$  DAO. Ocelli small, DAO  $0.08 \times$  WF, ocellar triangle not compact, distance between posterior ocelli  $4.5 \times$  DAO, anterior ocellus surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.41 \times$  LH, temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina, angulate, low.

**Mesosoma** (Fig. 73). Pronotal disc coriaceous-punctate,  $0.5 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $0.41 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.91 \times$  length pronotal disc, almost flat in profile, scutellar pit elliptical, narrowed, distant each other  $11.7 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.82 \times$  length propodeal disc, incomplete posterad; discal carina  $0.40 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina confused-rugulose. Lateral of propodeum predominantly coriaceous, anterior region with pits equally deep, oval, coriaceous, evenly narrow posterad, mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 118) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, wider medially; Rsb convex; 2R1 cell  $0.17 \times$  LFW; distal margin of Rsc angulate; r-rs vein almost vertical; R1b arching distally; Cub absent; Rs+M vein  $1.4 \times$  Rsa; M vein  $1.0 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.53 \times$  as wide as long. Metacoxa with median region  $0.73 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.24 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, S[outh] A[ustralia], 34.19S 139.30E, Brookfield Con[servation] P[ar]k, 12 Sept[ember] – 20 Oct[ober] 1991, J.Stelman, S.Williams, F[light] I[n]tercept T[rap], #1, ANIC. Paratypes. AUSTRALIA, S[outh] A[ustralia], 1 female, 34.19S 139.30E, Brookfield

Con[servation] P[ar]k, 2 Dec[ember] [19]91 – 12 Jan[uary] 1992, J.Stelman, S.Williams, Malaise #1, mallee with *Triodia*, ANIC; 1 female, 34.19S 139.30E, Brookfield Con[servation] P[ar]k, 12 Sept[ember] – 20 Oct[ober] 1999, J.Stelman, S.Williams, F[light] I[n]tercept T[rap], #1, ANIC; 1 female, Brookfield Cons[ervation] P[ar]k, 18 Feb[ruary] 1992, J.C.Cardale, ANIC; 1 female, 33.46S 135.06E, Lake Tungketta, 30, Nov[ember] 1992, I.Naumann, J.C.Cardale, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.46–6.90 mm; LFW 2.39–4.28 mm; median clypeal lobe slightly projected; discal carina of propodeal disc as long as half length of propodeal disc; veins of forewing dark castaneous.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 18 by having the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the eyes large, median clypeal lobe angulate, the vertex crest straight, the discal carina of propodeal disc as long as half length of propodeal disc, the C cell of forewing conspicuous apically. However this species has the head subrectangular in profile, the concavity of gena shallow, whereas *Eupsenella* sp. nov. 18 have the head subtriangular in profile, the concavity of gena strongly concave.

### ***Eupsenella* sp. nov. 21**

(Figs 29, 74, 119)

**Description.** Holotype. Male. Body length 6.8 mm. LFW 4.76 mm.

**Color.** Head dark castaneous almost black; scape dark castaneous; pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula dark castaneous; wing venation castaneous; procoxa dark castaneous almost black; mesocoxa and metacoxa dark castaneous; trochanters castaneous; femora dark castaneous; tarsi castaneous; metasoma dark castaneous almost black.

**Head** (Fig. 29). Head wider than long, subtriangular in profile; gena weakly concave in profile. Mandible evenly wide, lowermost tooth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.09 \times LH$ , well marked off from frons, median carina present,  $0.15 \times LH$ . Malar space conspicuous,  $0.5 \times$  mandibular base. Antenna 1.71 mm; first five antennomeres in ratio of about 11:11:11:11:11; flagellomere I  $1.38 \times$  longer than wide, flagellar pubescence dense, with few

outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times \text{LH}$ . Eye not protuberant,  $0.48 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate.  $\text{WH } 1.13 \times \text{LH}$ .  $\text{WF } 0.65 \times \text{WH}$ .  $\text{WF } 1.55 \times \text{HE}$ .  $\text{OOL } 1.14 \times \text{WOT}$ .  $\text{VOL } 0.45 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.25 \times \text{DAO}$ . Ocelli small,  $\text{DAO } 0.16 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $3.0 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.17 \times \text{LH}$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina straight, low.

**Mesosoma** (Fig. 74). Pronotal disc coriaceous-punctate,  $0.33 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $1.63 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.25 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $11.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.87 \times$  length propodeal disc, incomplete posterad; discal carina  $0.40 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 119) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 cell present, distinctly longer than 2R1 cell, wider medially; *Rsb* convex; 2R1 cell  $0.13 \times \text{LFW}$ ; distal margin of *Rsc* convex; *r-rs* vein inclined; *R1b* arching distally; *Cub* absent; *Rs+M* vein  $1.0 \times \text{Rsa}$ ; *M* vein  $1.0 \times \text{Rsa}$ ; *Rsa* slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with five distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.46 \times$  as wide as long. Metacoxa with median region  $0.49 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.** 0.46 × as wide as long.

**Material examined.** Holotype. AUSTRALIA, A[ustralia] C[apital] T[erritory], 35.32S 148.46E, M[oun]t[ain] Ginini, Brindabella Ra[n]ges, 24 Nov[ember] 1981, I.D.Naumann, ex[tracted] ethanol, ANIC. Paratypes. AUSTRALIA, N[ew] S[outh] W[ales], 1 female, 31.53S 151.32E, Dilgry River, Barrington Tops, S. F. 15–16 Nov[ember] 1981, T.Weir & A.Calder, Berlaste ANIC 752, open forest, litter, *Bamksia* & *Eucalyptus*, ANIC; W[estern] A[ustralia], 1 female, Normalup Nat[ional] Park, 9 Oct[ober] 1970, D.H.Colless, ANIC; Vict[oria], 1 female, Warburton, Cement C[ree]k, 670 m, 10–17 F[ebruary] 1980, *Nothofagus cunninghamii*, etc., A.Newton, M.Thayer, ANIC; Tas[mania], 1 female, 42.07S 145.47E, 2 Km ESE, 22 Jan[uary] 1988, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 5.00–5.48 mm; LFW 3.57–4.53 mm; Rsb and Rsc of forewing slightly convex.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 20 by having the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the median clypeal lobe angulate, short, with median carina extending to frons, the ocelli small, the propodeal disc with discal carina. However this species has the pronotal disc short, the mesoscutum large, discal carina of propodeal disc converging posterad, whereas *Eupsenella* sp. nov. 20 has the pronotal disc long, the mesoscutum not too large, the discal carina of propodeal disc not converging posterad.

### ***Eupsenella* sp. nov. 22**

(Figs 30, 75, 120)

**Description.** Holotype. Female. Body length 6.9 mm. LFW 4.1 mm.

**Color.** Head dark castaneous almost black; scape, pedicel, flagellum dark castaneous and mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation dark castaneous; coxae dark castaneous; trochanters castaneous; femora castaneous; tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 30). Head wider than long, globoid in profile; gena weakly concave in profile. Mandible evenly wide, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe

absent,  $0.03 \times \text{LH}$ , well marked off from frons, median carina present,  $0.23 \times \text{LH}$ . Malar space conspicuous,  $0.5 \times$  mandibular base. Antenna 2.05 mm; first five antennomeres in ratio of about 12:14:12:12:12; flagellomere I  $1.1 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.17 \times \text{LH}$ . Eye not protuberant,  $0.58 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.36 \times \text{LH}$ . WF  $0.63 \times \text{WH}$ . WF  $1.36 \times \text{HE}$ . OOL  $0.67 \times \text{WOT}$ . VOL  $0.22 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.2 \times \text{DAO}$ . Ocelli large, DAO  $0.13 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $1.9 \times \text{DAO}$ , anterior ocellus surpassing imaginary top eye line, posterior ocellus reaching vertex. Vertex concave, long setae,  $0.32 \times \text{LH}$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina, angulate, low.

**Mesosoma** (Fig. 75). Pronotal disc coriaceous-punctate,  $0.37 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $1.1 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.95 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit almost circular, narrowed, distant each other  $12.3 \times$  its own diameter. Dorsal axillar surface with fovea subrectangular. Metanotum with median region high, coriaceous-puncticulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.96 \times$  length propodeal disc, complete posterad; discal carina  $0.40 \times$  length propodeal disc, parallel to median carina, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 120) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, wider medially; Rsb convex; 2R1 cell  $0.15 \times \text{LFW}$ ; distal margin of Rsc convex; r-rs vein inclined; R1b arching distally; Cub absent; Rs+M vein  $0.83 \times \text{Rsa}$ ; M vein  $1.28 \times \text{Rsa}$ ; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with five distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.49 \times$  as wide as long. Metacoxa with median region  $0.64 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.35 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, S[outh] A[ustralia], 31.21S 138.42E, Oraparinna C[ree]k., Dilgly Dell Camp, near water, 4–10 Nov[ember] 1987, I.Naumann, J.Cardale, Malaise trap/ethanol, ANIC. Paratypes. AUSTRALIA. Q[ueens]l[an]d, 1 female, 18.55S 146.10E, S2, M[oun]t[ain] Spec, 880 m, 5 June – 3 July 1995, M.Cermak, Malaise trap, ANIC; N[ew] S[outh] W[ales], 1 female, Black Bull For[est] Res[erve], Wild Cattle C[ree]k SF, via Dorrigo, 9 Apr[il] 1993, C. Reid, ANIC; S[outh] A[ustralia], 1 female, 31.21S 138.42E, Oraparinna C[ree]k., Dilgly Dell Camp, near water, 4–10 Nov[ember] 1987, I.Naumann, J.Cardale, Malaise trap/ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.76–6.20 mm; LFW 3.81–4.30 mm; the median clypeal lobe slightly projected; veins of forewing dark castaneous; *Rsb* of forewing slightly convex.

**Remarks.** This species has features common to most species of the genus, such as, the eyes large, the median clypeal lobe angulate with median carina extending to the frons, the vertex crest straight. However this species has the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the ocelli small, the posterior ocelli distant to each other, the vertex crest with very long setae, the *Rsb* of forewing clearly angulate, the 1R1 cell of forewing slightly dilated medially, the C cell of forewing evident along almost its entire length.

### *Eupsenella* sp. nov. 23

(Figs 31, 76, 121)

**Description.** Holotype. Female. Body length 6.57 mm. LFW 4.24 mm.

**Color.** Head dark castaneous almost black; scape and pedicel dark castaneous; flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula and wing venation castaneous; coxae dark castaneous; trochanters light castaneous; femora dark castaneous; tarsi light castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 31). Head as long as wide, globoid in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved

inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe truncate, median concavity of median clypeal lobe present,  $0.11 \times \text{LH}$ , well marked off from frons, median carina present,  $0.1 \times \text{LH}$ . Malar space conspicuous,  $0.5 \times$  mandibular base. Antenna 2.0 mm; first five antennomeres in ratio of about 12:12:12:12:12; flagellomere I  $1.33 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.16 \times \text{LH}$ . Eye not protuberant,  $0.48 \times \text{LH}$ , with sparse hairs, lower margin without strong depression. Frons coriaceous-punctate.  $\text{WH } 1.0 \times \text{LH}$ .  $\text{WF } 0.77 \times \text{WH}$ .  $\text{WF } 1.31 \times \text{HE}$ .  $\text{OOL } 1.14 \times \text{WOT}$ .  $\text{VOL } 0.46 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.33 \times \text{DAO}$ . Ocelli small,  $\text{DAO } 0.08 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $3.5 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, short setae,  $0.20 \times \text{LH}$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 76). Pronotal disc coriaceous-punctate,  $0.44 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $1.1 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.0 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $12.0 \times$  its own diameter. Dorsal axillar surface with fovea almost circular. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.85 \times$  length propodeal disc, incomplete posterad; discal carina  $0.40 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture wholly conspicuous, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesoplectus with posterior depression composed by two large foveae almost fused; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 121) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* convex; 2R1 cell  $0.15 \times \text{LFW}$ ; distal margin of *Rsc* convex; r-rs vein inclined; *R1b* arching distally; *Cub* absent; *Rs+M* vein  $1.1 \times \text{Rsa}$ ; *M* vein  $1.29 \times \text{Rsa}$ ; *Rsa* subperpendicular to anterior margin of



forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.52 \times$  as wide as long. Metacoxa with median region  $0.6 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.34 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, S[outh] A[ustralia], 31.21S 139.29E, Brookfield Conservation Park, 24–26 Nov[ember] 1992, I.Naumann, J.Cardale, yellow trays, ANIC. Paratypes. AUSTRALIA, W[estern] A[ustralia], 2 females, 31.21S 118.57E, 2 Km SW by W, Noongar, 9 Oct[ober] 1981, I.D.Naumann, J.C.Cardale, ex[tracted], ANIC; N[ew] S[outh] W[ales], 1 female, Wilcannia, 64 Km W, 22 Sept[ember] 1985, Richard Bejsak, ANIC; S[outh] A[ustralia], 1 female, 33.40S 134.54E, 1 Km S by E. Elliston, 30 Nov[ember] 1992, I.Naumann, J.Cardale, ANIC; A[ustralia] C[apital] T[erritory], 2 females, Black M[oun]t[ain], 1–11 Apr[il] 1980, Malaise Site 2, D.H.Colless, ANIC; 1 female, Piccadilly Circus, Brindabella R[an]ge, 24 Oct[ober] 1982, Pyrethrin fogging, *Eucalyptus bark*, J.F.Lawrence coll[ector], ANIC; Tas[mania], 1 female, 41.06S 147.53E, 1 Km E by N, Herrick, 29–30 Jan[uary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted], ANIC; 1 female, 41.21S 147.22E, Barrow C[ree]k, 8 Km NE, Nunamara, 11 Jan[uary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.70–6.21 mm; LFW 3.33–4.76 mm; median clypeal lobe subangulate, almost rounded and almost without projection.

**Remarks.** This species is very different from the others by having the median clypeal lobe broad, subangulate, bifurcating anterad and the distal region of Rsc of forewing strongly convex.

### ***Eupsenella* sp. nov. 24**

(Figs 32, 77, 122)

**Description.** Holotype. Female. Body length 5.81 mm. LFW 4.04 mm.

**Color.** Head dark brown; scape castaneous; pedicel and flagellum castaneous; mandible light castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark brown; tegula castaneous; wing venation light castaneous; coxae dark castaneous; trochanters castaneous; femora dark castaneous; tarsi castaneous; metasoma dark castaneous.

**Head** (Fig. 32). Head wider than long, globoid in profile; gena weakly concave in profile. Mandible with base wider than apex, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.13 \times \text{LH}$ , well marked off from frons, median carina present,  $0.14 \times \text{LH}$ . Malar space inconspicuous,  $0.15 \times$  mandibular base. Antenna 1.43 mm; first five antennomeres in ratio of about 11:11:11:11:11; flagellomere I  $1.22 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times \text{LH}$ . Eye not protuberant,  $0.42 \times \text{LH}$ , with sparse hairs, located more laterally. WH  $1.04 \times \text{LH}$ . WF  $0.65 \times \text{WH}$ . WF  $1.66 \times \text{HE}$ . OOL  $1.14 \times \text{WOT}$ . VOL  $0.78 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.75 \times \text{DAO}$ . Ocelli large, DAO  $0.12 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $2.4 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, short setae,  $0.14 \times \text{LH}$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina, angulate, low.

**Mesosoma** (Fig. 77). Pronotal disc coriaceous-punctate,  $0.46 \times$  as long as wide, anterior corner rounded, posterior margin strongly concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $1.6 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.05 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $13.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.44 \times$  length propodeal disc, incomplete posterad; discal carina  $0.14 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture wholly conspicuous, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture absent. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 122) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; cell present, distinctly longer than 2R1 cell, wider medially; Rsb convex; 2R1 cell  $0.15 \times \text{LFW}$ ; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior

margin of forewing; *Cub* absent; *Rs+M* vein  $1.67 \times Rsa$ ; *M* vein  $1.67 \times Rsa$ ; *Rsa* subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus adjacent each other.

**Legs.** Profemur swollen,  $0.49 \times$  as wide as long. Metacoxa with median region  $0.7 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.28 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, 41.50S 146.03E, Tas[mania], Pellion Hut, 3 Km S, M[oun]t[ain] Oakleigh, Mar[ch] 1991, I.D.Naumann, *Leptospermum* scrub and vicinity, ANIC. Paratype. AUSTRALIA, Q[ueensland], 1 female, 13 Km SE, Herberton, 24 May 1980, ex[tracted] alcohol collection, I.D.Naumann, J.C.Cardale, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *E. diemenensis* by having the median clypeal lobe short, angulate and with median carina extending up to frons, the vertex crest convex, the propodeal disc with median carina and discal carina present. However this species has the mesoscutum large, the median carina of propodeal disc very short, less than half length of propodeal disc, whereas *Eupsenella diemenensis* has the mesoscutum not large, the median carina of propodeal disc long, more than half length of propodeal disc.

### ***Eupsenella* sp. nov. 25**

(Figs 33, 78, 123)

**Description.** Holotype. Female. Body length 5.62 mm. LFW 4.05 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula and wing venation dark castaneous; coxae dark castaneous almost black; trochanters light castaneous; profemur dark castaneous almost black; mesofemur, and metafemur dark castaneous; tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 33). Head longer than wide, subrectangular in profile; gena without concavity in profile. Mandible evenly wide, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe broadly truncate, median concavity of median clypeal lobe absent,  $0.06 \times LH$ , well marked off from frons, median carina

present,  $0.15 \times \text{LH}$ . Malar space conspicuous,  $0.29 \times$  mandibular base, carinate. Antenna 1.38 mm; first five antennomeres in ratio of about 7:8:9:9:9; flagellomere I  $1.0 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.11 \times \text{LH}$ . Eye not protuberant,  $0.43 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $0.92 \times \text{LH}$ . WF  $0.52 \times \text{WH}$ . WF  $1.19 \times \text{HE}$ . OOL  $1.14 \times \text{WOT}$ . VOL  $0.64 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $0.67 \times \text{DAO}$ . Ocelli small, DAO  $0.10 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $3.25 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, short setae,  $0.14 \times \text{LH}$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 78). Pronotal disc coriaceous-punctate,  $0.46 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli parallel to each other. Mesoscutum  $1.15 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.95 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $9.33 \times$  its own diameter. Dorsal axillar surface with fovea oval. Median region elevate, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.91 \times$  length propodeal disc, complete posterad; discal carina  $0.41 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe conspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 123) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.15 \times \text{LFW}$ ; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.1 \times \text{Rsa}$ ; M vein  $1.0 \times \text{Rsa}$ ; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.53 \times$  as wide as long. Metacoxa with median region  $0.64 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.34 \times$  as wide as long.

**Material examined.** Holotype. AUSTRALIA, 31.22S 118.47E, W[estern] A[ustralia], 9 Km E by S, Carrabin, 9 Oct[ober] 1981, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 23 by having the median clypeal lobe broad, truncate, with median carina, the propodeal disc with median carina and discal carina. However this species has the head elongated, the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the head globoid in profile, the posterior ocelli distant from vertex crest, the median clypeal lobe very broad, with median carina not bifurctaed, whereas *Eupsenella* sp. nov. 23 has the head not elongated, the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the head subrectangular in profile, posterior ocelli near from vertex crest, the median clypeal lobe broad, with median carina bifurcating anterad.

### *Eupsenella* sp. nov 26

(Figs 34, 79, 124)

**Description.** Holotype. Female. Body length 5.38 mm. LFW 4.05 mm.

**Color.** Head dark castaneous almost black; scape, pedicel light castaneous and flagellum light castaneous; mandible castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula dark castaneous; wing venation light castaneous; coxae, trochanters, femora and tarsi light castaneous; metasoma dark castaneous almost black.

**Head** (Fig. 34). Head as long as wide, globoid in profile; gena without concavity in profile. Mandible evenly wide, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.07 \times$  LH, well marked off from frons, median carina present,  $0.13 \times$  LH. Malar space conspicuous,  $0.29 \times$  mandibular base. Antenna 1.95 mm; first five antennomeres in ratio of about 9:10:10:10:10; flagellomere I  $1.11 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times$  LH. Eye not protuberant,  $0.54 \times$  LH, with sparse hairs,

located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times$  LH. WF  $0.61 \times$  WH. WF  $1.27 \times$  HE. OOL  $1.6 \times$  WOT. VOL  $0.45 \times$  HE. Distance from posterior ocellus to vertex crest  $0.5 \times$  DAO. Ocelli large, DAO  $0.14 \times$  WF, ocellar triangle compact, distance between posterior ocelli  $1.1 \times$  DAO, anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, short setae,  $0.13 \times$  LH, temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 79). Pronotal disc coriaceous-punctate,  $0.38 \times$  as long as wide, anterior corner angulate, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow inconspicuous. Notauli convergent posterad. Mesoscutum  $0.95 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.95 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $14.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.75 \times$  length propodeal disc, incomplete posterad; discal carina  $0.55 \times$  length propodeal disc, surpassing half length of propodeal disc, parallel to median carina, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesospectus with posterior depression composed by two large foveae almost fused; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 124) with 1M cell subtriangular; 1M and 1R1 cells aligned basally; C cell widening distally; 1R1 cell present, slightly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.17 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $0.44 \times$  Rsa; M vein  $1.0 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.45 \times$  as wide as long. Metacoxa with median region  $0.5 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.32 \times$  as wide as long, except first two tergites, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, 19.00S 146.12E, Q[ueensland], Paluma, 25 Oct[ober] – 3 Nov[ember] 1980, D.Frith, Malaise Trap, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 24 by having the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the eyes densely hairy, the median clypeal lobe angulate, short, with median carina extending to the frons, the ocelli large, the propodeal disc with lateral discal and median carina, the Cua of forewing aligned with Rsb basally. However this species has the pronotal disc long, with anterior margin straight, the C cell of forewing conspicuous for more than two thirds of its length, the 1M cell of forewing reduced, almost subtriangular, whereas *Eupsenella* sp. nov. 24 has the pronotal disc shorter, with anterior margin slightly convex, the C cell of forewing conspicuous for only distally, the 1M cell of forewing large and subpentagonal.

***Eupsenella* sp. nov. 27**

(Figs 35, 80, 125)

**Description.** Holotype. Female. Body length 7.95 mm. LFW 5.1 mm.

**Color.** Head dark castaneous almost black; scape, pedicel, flagellum and mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula dark castaneous; wing venation castaneous; coxae dark castaneous; trochanters castaneous; femora dark castaneous almost black; tarsi light castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 35). Head wider than long, subtriangular in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.07 \times LH$ , well marked off from frons, median carina present,  $0.15 \times LH$ . Malar space conspicuous,  $0.33 \times$  mandibular base. Antenna 1.81 mm; first five antennomeres in ratio of about 13:11:13:13:13; flagellomere I  $1.44 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times LH$ . Eye not protuberant,  $0.48 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.11 \times LH$ . WF  $0.63 \times WH$ . WF  $1.36 \times HE$ . OOL  $1.0 \times WOT$ . VOL  $0.43 \times HE$ . Distance from posterior ocellus to vertex crest  $0.5 \times DAO$ . Ocelli small, DAO  $0.08 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $3.25 \times DAO$ , anterior ocellus

not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.22 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 80). Pronotal disc coriaceous-punctate,  $0.3 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $1.17 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.1 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $10.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.88 \times$  length propodeal disc, incomplete posterad; discal carina  $0.14 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture wholly conspicuous; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 125) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, wider medially; Rsb convex; 2R1 cell  $0.15 \times LFW$ ; distal margin of Rsc convex; r-rs vein inclined; R1b arching distally; Cub absent; Rs+M vein  $1.45 \times Rsa$ ; M vein  $1.38 \times Rsa$ ; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with five distal hamuli, last hamulus adjacent each other.

**Legs.** Profemur swollen,  $0.55 \times$  as wide as long. Metacoxa with median region  $0.6 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.22 \times$  as wide as long, except first two tergites, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, 31.54S 151.33E, N[ew] S[outh] W[ales], Moppy Lookout, Barrington Tops, S. F., 18 nov[ember] 1981, Pyrethrin fogging, *Nothofagus*, T.Weir, ANIC. Paratypes. AUSTRALIA, N[ew] S[outh] W[ales], 1 female, Moppy Lookout, Barrington Tops, S. F., 17 nov[ember] 1981, Pyrethrin spray, *Eucalyptus*, ANIC; A[ustralia] C[apital] T[erritory], 1 female, Canberra (Farrer), 7 Dec[ember] 1980, D. Rentz, in pool, ex[tracted] ethanol, ANIC. W[estern]



A[ustralia], 1 female, Crowea St. For[erst], n[ea]r Pemberton, 29 Oct[ober] – 20 Dec[ember] 1979, closed trap, S.J.Curry, Malaise trap, ANIC.

**Distribution.** Australia.

**Variation.** Body length 6.20–6.67 mm; LFW 4.29–4.77 mm; notauli slightly convergent posterad; *Rsb* slightly convex; discal carina of propodeal disc diagonally inclined.

**Remarks.** This species has features common to most species of the genus by having the eyes large, the median clypeal lobe angulate and with median carina extending to frons, the vertex crest straight. However this species has some peculiar characteristics such as the body robust, the pronotal disc short but very wide a strong and clear narrowing of C cell of forewing, slightly conspicuous in apical region.

***Eupsenella* sp. nov. 28**

(Figs 36, 81, 126)

**Description.** Holotype. Female. Body length 8.67 mm. LFW 3.81 mm.

**Color.** Head dark castaneous almost black; scape dark castaneous; pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula dark castaneous; wing venation dark castaneous; procoxa dark castaneous almost black; mesocoxa and metacoxa dark castaneous; trochanters light castaneous; profemur dark castaneous almost black; mesofemur, metafemur and tarsi castaneous; metasoma dark castaneous almost black.

**Head** (Fig. 36). Head as long as wide, globoid in profile; gena strongly concave in profile. Mandible evenly wide, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.07 \times LH$ , well marked off from frons, median carina present,  $0.15 \times LH$ . Malar space conspicuous,  $0.38 \times$  mandibular base. Antenna 1.90 mm; first five antennomeres in ratio of about 14:13:13:14:14; flagellomere I  $1.3 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.08 \times LH$ . Eye protuberant,  $0.54 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times LH$ . WF  $0.59 \times WH$ . WF  $1.07 \times HE$ . OOL  $1.0 \times WOT$ . VOL  $0.33 \times HE$ . Distance from posterior ocellus to vertex crest  $0.67 \times DAO$ . Ocelli large, DAO  $0.12 \times WF$ , ocellar triangle not compact, distance between

posterior ocelli  $2.0 \times$  DAO, anterior ocellus surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, short setae,  $0.15 \times$  LH, temple profile slightly convergent in dorsal view, with corner angulate, not projected postero-laterad. Hipostomal carina sinuous, low.

**Mesosoma** (Fig. 81). Pronotal disc coriaceous-punctate,  $0.24 \times$  as long as wide, anterior corner angulate, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli parallel to each other. Mesoscutum  $0.75 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.75 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, dilated, distant each other  $8.67 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.88 \times$  length propodeal disc, incomplete posterad; discal carina  $0.13 \times$  length propodeal disc, converging posterad, slightly arched; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 126) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, slightly longer than 2R1 cell, evenly wide; Rsb convex; 2R1 cell  $0.16 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.45 \times$  Rsa; M vein  $1.67 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.55 \times$  as wide as long. Metacoxa with median region  $0.59 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.2 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, 35.22S 148.50E, A[ustralia] C[apital] T[erritory], Blundells C[ree]k, Feb[ruary] 1987, D.H.Colless, Malaise trap/ethanol, ANIC. Paratypes. AUSTRALIA, W[estern] A[ustralia], 1 female, Crowea S[ta]t[e] For[est], n[ear] Pemberton, 29 Oct[ober] – 20 Dec[ember] 1979, S.J.Curry, Malaise trap, closed forest, ANIC; A[ustralia] C[apital] T[erritory], 1 female, 35.22S 148.50E, Blundells C[ree]k, Feb[ruary] 1987, D.H.Colless, Malaise trap/ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.76–5.25 mm; LFW 3.80–4.04 mm; median carina of clypeus high; veins of forewing light castaneous.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 8 by having the head subtriangular in profile, the eyes protuberant, densely hairy. However this species has the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the body robust, the median clypeal lobe with high median carina, the gena slightly concave in profile, the vertex crest slightly convex, the notauli parallel, whereas *Eupsenella* sp. nov. 8 has the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the median clypeal lobe truncate, without median carina, the vertex crest slightly concave, the notauli convergent posterad.

***Eupsenella* sp. nov. 29**

(Figs 37, 82, 127)

**Description.** Holotype. Female. Body length 7.07 mm. LFW 3.58 mm.

**Color.** Head dark castaneous almost black; scape, pedicel, flagellum, mandible and palpi light castaneous; mesosoma dark castaneous; tegula light castaneous; wing venation dark castaneous; procoxa dark castaneous almost black; mesocoxa, metacoxa, trochanters castaneous; profemur and mesofemur castaneous; metafemur dark castaneous; tarsi light castaneous; metasoma dark castaneous almost black.

**Head** (Fig. 37). Head wider than long, subrectangular in profile; gena weakly concave in profile. Mandible evenly wide, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe subangulate, median concavity of median clypeal lobe absent,  $0.02 \times LH$ , well marked off from frons, median carina present,  $0.1 \times LH$ . Malar space conspicuous,  $0.33 \times$  mandibular base. Antenna 1.58 mm; first five antennomeres in ratio of about 10:9:9:9:8; flagellomere I  $1.0 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times LH$ . Eye protuberant,  $0.57 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.01 \times LH$ . WF  $0.56 \times WH$ . WF  $1.08 \times HE$ . OOL  $1.17 \times WOT$ . VOL  $0.31 \times HE$ . Distance from posterior ocellus to vertex crest  $0.67 \times DAO$ . Ocelli small, DAO  $0.08 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $3.5 \times DAO$ , anterior ocellus not surpassing imaginary top eye line,

posterior ocellus reaching vertex. Vertex concave, long setae,  $0.22 \times \text{LH}$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 82). Pronotal disc coriaceous-punctate,  $0.42 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow inconspicuous. Notauli convergent posterad. Mesoscutum  $1.4 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.1 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $11.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region high, coriaceous-punctulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long, anterior margin of propodeal disc with a transverse furrow, dilated ends; median carina  $0.49 \times$  length propodeal disc, incomplete posterad, located within a median furrow; discal carina  $0.15 \times$  length propodeal disc, converging posterad, slightly arched; space between median and discal carina confused-rugulose. Coriaceous. Lateral of propodeum predominantly coriaceous. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 127) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb convex; 2R1 cell  $0.22 \times \text{LFW}$ ; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $0.91 \times \text{Rsa}$ ; M vein  $1.5 \times \text{Rsa}$ ; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur very swollen,  $0.63 \times$  as wide as long. Metacoxa with median region  $0.59 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.2 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, N[ew] S[outh] W[ales], 3 Km N Landsdowne, n[ear] Taree, 20–27 Dec[ember] 1990, G. Williams, rainf[orest]/wet sclerophyll, Malaise, ANIC.

**Distribution.** Australia.

**Remarks.** This specie species is similar to *E. diemenensis* by having eye large, the median clypeal lobe angulate, the posterior ocelli near vertex crest, the 2R1 cell of forewing slightly elongated.

However this species has the median clypeal lobe short, median clypeal lobe with median carina absent, the propodeal disc with median carina short, the anterior margin of propodeal disc with transverse furrow, dilated ends, whereas *Eupsenella diemenensis* has the median clypeal lobe clearly higher, median clypeal lobe with median carina present, the median carina of propodeal disc long, the anterior margin of propodeal disc with transverse furrow, dilated ends.

***Eupsenella* sp. nov. 30**

(Figs 38, 83, 128)

**Description.** Holotype. Female. Body length 6.71 mm. LFW 4.33 mm.

**Color.** Head dark castaneous; scape castaneous; pedicel and flagellum castaneous; mandible dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation dark castaneous; procoxa dark castaneous almost black; mesocoxa castaneous; metacoxa castaneous; trochanters light castaneous; femora dark castaneous; tarsi light castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 38). Head longer than wide, globoid in profile; gena weakly concave in profile. Mandible with base wider than apex, lowermost tooth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.09 \times LH$ , well marked off from frons, median carina present,  $0.11 \times LH$ . Malar space inconspicuous,  $0.1 \times$  mandibular base. Antenna 1.67 mm; first five antennomeres in ratio of about 11:11:11:12:12; flagellomere I  $1.22 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye straight. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.08 \times LH$ . Eye not protuberant,  $0.53 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $0.89 \times LH$ . WF  $0.64 \times WH$ . WF  $0.84 \times HE$ . OOL  $0.48 \times WOT$ . VOL  $0.37 \times HE$ . Distance from posterior ocellus to vertex crest  $1.5 \times DAO$ . Ocelli large, DAO  $0.13 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $1.6 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus distant from vertex. Vertex straight, long setae,  $0.28 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina straight, low.

**Mesosoma** (Fig. 83). Pronotal disc coriaceous-punctate,  $0.34 \times$  as long as wide, anterior corner rounded, posterior margin strongly concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow conspicuous only at third posterior part. Notauli convergent posterad. Mesoscutum  $0.91 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.86 \times$  length pronotal disc, convex in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $17.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, coriaceous-punctulate, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.73 \times$  length propodeal disc, incomplete posterad; discal carina  $0.14 \times$  length propodeal disc, converging posterad, slightly arched; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation restricted to posterior region, median suture absent. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 128) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb convex; 2R1 cell  $0.15 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b arching distally; Cub absent; Rs+M vein  $1.2 \times$  Rsa; M vein  $1.0 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.53 \times$  as wide as long. Metacoxa with median region  $0.41 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.27 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, 35.19S 148.51E, A[ustralia] C[apital] T[erritory], Wombat C[ree]k, 750 m, 6 Km E Piccadilly Circus, Sept[ember] 1985, Lawrence, Weir, Johnson, flight intercept trap, ANIC. Paratype. AUSTRALIA, A[ustralia] C[apital] T[erritory], 1 female, 35.22S 148.50E, Blundells C[ree]k, Feb[ruary] 1987, D.H.Colless, Malaise trap/ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 5.47–5.71 mm; LFW 4.04–4.21 mm; median clypeal lobe slightly subangulate.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 25 by having the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the ocelli small and distant from vertex crest, the median clypeal lobe angulate. However this species has the median clypeal lobe angulate, with median carina high, whereas *Eupsenella* sp. nov. 25 has the median clypeal lobe broadly truncate, with median carina low.

***Eupsenella* sp. nov. 31**

(Figs 39, 84, 129)

**Description.** Holotype. Female. Body length 7.29 mm. LFW 4.81 mm.

**Color.** Head dark castaneous almost black; scape dark castaneous; pedicel and flagellum castaneous; mandible with body almost dark castaneous and only apex castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula and wing venation light castaneous; procoxa dark castaneous; mesocoxa, metacoxa, trochanters, castaneous; tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 39). Head as long as wide, subtriangular in profile; gena strongly concave in profile. Mandible evenly wide, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.08 \times LH$ , well marked off from frons, median carina present,  $0.20 \times LH$ . Malar space conspicuous,  $0.38 \times$  mandibular base. Antenna 2.53 mm; first five antennomeres in ratio of about 19:19:17:15:15; flagellomere I  $1.7 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.06 \times LH$ . Eye protuberant,  $0.61 \times LH$ , with dense hairs, located more laterally, lower margin without strong depression. Frons coriaceous punctate. WH  $1.0 \times LH$ . WF  $0.58 \times WH$ . WF  $1.0 \times HE$ . OOL  $0.89 \times WOT$ . VOL  $0.26 \times HE$ . Distance from posterior ocellus to vertex crest  $0.5 \times DAO$ . Ocelli large, DAO  $0.12 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $2.4 \times DAO$ , anterior ocellus surpassing imaginary top eye line, posterior ocellus distant from vertex. Vertex straight, long setae,  $0.18 \times LH$ , temple profile slightly convergent in dorsal view, with corner angulate, not projected postero-laterad. Hipostomal carina arched, high.

**Mesosoma** (Fig. 84). Pronotal disc coriaceous-punctate,  $0.44 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal

furrow inconspicuous. Notauli convergent posterad. Mesoscutum  $1.53 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.27 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $14.0 \times$  its own diameter, scutellar furrow absent. Dorsal axillar surface with fovea subrectangular. Metanotum with median region high, coriaceous-puncticulate, as high as scutellum in profile, with fovea elliptical laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.95 \times$  length propodeal disc, complete posterad; discal carina  $0.1 \times$  length propodeal disc, converging posterad, slightly arched; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 129) with 1M cell subtriangular; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.15 \times$  LFW; distal margin of Rsc convex; r-rs vein inclined; R1b arching distally; Cub absent; Rs+M vein  $0.85 \times$  Rsa; M vein  $1.0 \times$  Rsa; Rsa slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.48 \times$  as wide as long. Metacoxa with median region  $0.45 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.33 \times$  as wide as long, except first two tergites, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, Q[ueensland], Rockpool George, M[ount][ain] Walah Nat[ional] P[ar]k, Biggenden, 22 Aug[ust] 1972, H.Frauca, ANIC.

**Distribution.** Australia.

**Remarks.** This species is very different from the others by having the vertex crest clearly narrow, the ocelli distant, the eyes large, protuberant, the median clypeal lobe angulate, high, the discal carina of propodeal disc inconspicuous, the Rsb of forewing straight, the Cub of forewing vestigial.



***Eupsenella* sp. nov. 32**

(Figs 40, 85, 130)

**Description.** Holotype. Female. Body length 6.53 mm. LFW 1.43 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible and palpi light castaneous; mesosoma dark castaneous almost black; tegula light castaneous; wing venation castaneous; procoxa dark castaneous; mesocoxa and metacoxa castaneous; trochanters light castaneous; femora castaneous; tarsi light castaneous; metasoma dark castaneous with last tergite light castaneous.

**Head** (Fig. 40). Head longer than wide, subrectangular in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe truncate, median concavity of median clypeal lobe absent, median area high and strongly polished,  $0.11 \times LH$ , well marked off from frons, median carina present,  $0.08 \times LH$ . Malar space conspicuous,  $0.8 \times$  mandibular base. Antenna 1.81 mm; first five antennomeres in ratio of about 11:11:11:11:11; flagellomere I  $1.22 \times$  longer than wide, flagellar pubescence sparse, with many outstanding erect setae. Region between torulus and eye concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.19 \times LH$ . Eye protuberant,  $0.55 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $0.93 \times LH$ . WF  $0.6 \times WH$ . WF  $1.0 \times HE$ . OOL  $1.0 \times WOT$ . VOL  $0.27 \times HE$ . Distance from posterior ocellus to vertex crest  $1.0 \times DAO$ . Ocelli small, DAO  $0.07 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $4.0 \times DAO$ , anterior ocellus surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.30 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina straight, low.

**Mesosoma** (Fig. 85). Pronotal disc coriaceous-punctate,  $0.74 \times$  as long as wide, anterior corner angulate, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow inconspicuous. Notauli convergent posterad. Mesoscutum  $0.43 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.53 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit almost circular, dilated, distant each other  $4.4 \times$  its own diameter. Dorsal axillar surface with fovea almost circular. Metanotum with median region high, coriaceous-punctate, as high as scutellum in profile, with fovea elliptical laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.81 \times$  length propodeal disc, incomplete

posterad; discal carina  $0.18 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar present. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture evident.

**Wings.** Brachypterous. Forewing (Fig. 130) with 1M cell absent. C cell evenly narrow; 1R1 cell absent; 2R1 cell short, open; R1*b* almost inconspicuous, but entirely on anterior margin of forewing; Rs+M vein  $0.20 \times$  Rsa; M vein  $0.75 \times$  Rsa; Rsa subperpendicular to anterior margin of forewing; Cub absent; stigma rectangular; distal stigmal margin convex.

**Legs.** Profemur swollen,  $0.4 \times$  as wide as long. Metacoxa with median region  $0.48 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.32 \times$  as wide as long, except first two tergites, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, N[ew] S[outh] W[ales], Dorrigo NP, E and Blackbutt Track, 710 m, 28 ii – 5 iii [19]80, subtrop[ical] rainf[orest], flight intercept window/trough trap, A.Newton, M.Thayer, ANIC.

**Distribution.** Australia.

**Remarks.** This species is very different from the others by having the head subtriangular in profile, the median clypeal lobe truncate, with median carina, the parapsidal furrow absent, and mainly because it is brachypterous with forewing with Rs+M vein of forewing vestigial, 1R1 and 2R1 cells of forewing open, 1M cell of forewing absent.

### ***Eupsenella* sp. nov. 33**

(Figs 41, 865, 131)

**Description.** Holotype. Female. Body length 7.29 mm. LFW 1.61 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum dark castaneous; mandible castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula light castaneous; wing venation castaneous; procoxa dark castaneous almost black; mesocoxa castaneous; metacoxa dark castaneous; trochanters light castaneous; profemur dark

castaneous; mesofemur, metafemur and tarsi castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 41). Head as long as wide, subrectangular in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.11 \times LH$ , well marked off from frons, median carina present,  $0.35 \times LH$ . Malar space conspicuous,  $0.53 \times$  mandibular base. Antenna 1.9 mm; first five antennomeres in ratio of about 12:12:12:12:12; flagellomere I  $1.0 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.23 \times LH$ . Eye not protuberant,  $0.44 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate.  $WH 1.0 \times LH$ .  $WF 0.66 \times WH$ .  $WF 1.25 \times HE$ .  $OOL 1.0 \times WOT$ .  $VOL 0.42 \times HE$ . Distance from posterior ocellus to vertex crest  $1.0 \times DAO$ . Ocelli small,  $DAO 0.09 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $3.75 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex straight, long setae,  $0.35 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina straight, low.

**Mesosoma** (Fig. 86). Pronotal disc coriaceous-punctate,  $0.63 \times$  as long as wide, anterior corner angulate, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $0.55 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.59 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, dilated, distant each other  $7.0 \times$  its own diameter. Dorsal axillar surface with fovea almost circular. Metanotum with median region high, coriaceous-punctate, as high as scutellum in profile, with fovea elliptical laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.92 \times$  length propodeal disc, complete posterad; discal carina  $0.32 \times$  length propodeal disc, converging posterad, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture almost inconspicuous posterad; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture evident.

**Wings.** Brachypterous. Forewing (Fig. 131) with 1M cell subtriangular; 1M and 1R1 cells aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; *Rsb* straight; 2R1 cell short. Distal margin of *Rsc* slightly angulate; r-rs vein almost vertical; *R1b* almost inconspicuous, but entirely on anterior margin of forewing; *Cub* absent; *Rs+M* vein  $0.25 \times Rsa$ ; *M* vein  $0.33 \times Rsa$ ; *Rsa* subperpendicular to anterior margin of forewing; stigma triangular; distal stigmal margin truncate.

**Legs.** Profemur swollen,  $0.48 \times$  as wide as long. Metacoxa with median region  $0.52 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.31 \times$  as wide as long, except first two tergites, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, A[ustralia] C[apital] T[erritory], 35.22S 148.50E, Blundells C[ree]k, 850 m, 3 km E, Piccadilly Circus, Oct[ober] 1985, LawrenceWeir, Johnson, flight intercept/window trough trap, ANIC. Paratypes. AUSTRALIA, N[ew] S[outh] W[ales], 13 females, 34.34S 150.40E, Macquarie Pass, 7 Km ENE, Robertson, 8 Feb[ruary] 1984, I.D.Naumann, ex[tracted] ethanol, ANIC; A[ustralia] C[apital] T[erritory], 35.22S 148.50E, Blundells C[ree]k, 850 m, 3 km E of Piccadilly Circus, 27 Jan[uary] 1982, J. Lawrence, ANIC; 1 female, Dec[ember] 1984, Weir, Lawrence, Johnson, flight intercept window/trough trap, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.53–6.42 mm; LFW 1.28–1.66 mm; first medial cell (1M) absent, forewing with 1R1 cell elliptical, C cell almost inconspicuous, *Rsb* slightly convex.

**Remarks.** This species is similar to *Eupsenella* sp. nov. 32 by having the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the ocelli small and brachypterous wings. However this species has the median clypeal lobe angulate, the forewing with 1R1 cell of forewing closed, the 1M cell of forewing present, whereas *Eupsenella* sp. nov. 32 has the median clypeal lobe truncate, the forewing with 1R1 cell of forewing opened and the 1M cell of forewing absent.

### ***Eupsenella* sp. nov. 34**

(Figs 42, 87, 132)

**Description.** Holotype. Female. Body length 5.38 mm. LFW 4.05 mm.

**Color.** Head dark castaneous; scape castaneous; pedicel and flagellum castaneous; mandible light castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous; tegula and

wing venation castaneous; procoxa dark castaneous almost black; mesocoxa and metacoxa dark castaneous; trochanters castaneous; profemur, mesofemur, and metafemur dark castaneous; tarsi castaneous; metasoma dark castaneous almost black.

**Head** (Fig. 42). Head as long as wide, globoid in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe angulate, median concavity of median clypeal lobe absent,  $0.11 \times LH$ , well marked off from frons, median carina present,  $0.31 \times LH$ . Malar space conspicuous,  $0.33 \times$  mandibular base. Antenna 1.43 mm; first five antennomeres in ratio of about 11:10:10:10:10; flagellomere I  $1.25 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.10 \times LH$ . Eye not protuberant,  $0.46 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times LH$ . WF  $0.65 \times WH$ . WF  $1.37 \times HE$ . OOL  $1.5 \times WOT$ . VOL  $0.64 \times HE$ . Distance from posterior ocellus to vertex crest  $0.67 \times DAO$ . Ocelli large, DAO  $0.12 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $2.0 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus distant from vertex. Vertex convex, long setae,  $0.31 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 87). Pronotal disc coriaceous-punctate,  $0.5 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $1.78 \times$  length pronotal disc, lateral of weakly elevate posterad. Scutellum coriaceous-punctate,  $1.43 \times$  length pronotal disc, almost flat in profile, posterior margin almost straight medially, scutellar pit elliptical, narrowed, distant each other  $11.0 \times$  its own diameter. Dorsal axillar surface with fovea almost circular. Metanotum with median region high, coriaceous-puncticulate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.78 \times$  length propodeal disc, incomplete posterad; discal carina  $0.28 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow elliptical; mesepimeral suture wholly conspicuous; mesopleural epicoxal lobe conspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical

collar absent. Prosternum with median excavation complete, median suture present. Mesospectus with posterior depression composed by two large foveae almost fused; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 132) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb convex; 2R1 cell  $0.15 \times \text{LFW}$ ; distal margin of Rsc angulate; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.34 \times \text{Rsa}$ ; M vein  $1.15 \times \text{Rsa}$ ; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.43 \times$  as wide as long. Metacoxa with median region  $0.48 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.36 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, Tas[mania], 41.22S 147.24E, 10 Km ENE of Nuanamara, 11 Jan[uary] 1983, I.D.Naumann & J.C.Cardale, ex[tracted] ethanol, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *E. diemenensis* by having the median clypeal lode angulate with median carina elevated, the vertex slightly convex, the ocelli small, the 1R1 cell of forewing clearly longer than 2R1 cell. However this species has the ocelli distant from crest vertex, the notauli close to each other, the forewing with C cell evident apically and the Rsb almost straight, whereas *E. diemenensis* the ocelli near from crest vertex, the notauli distant to each other, the forewing with C cell reduced apically and Rsb slightly concave medially.

### ***Eupsenella* sp. nov. 35**

(Figs 43, 88, 133)

**Description.** Holotype. Female. Body length 7.15 mm. LFW 4.52 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible light castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation light castaneous; coxae, trochanters, femora and tarsi castaneous; metasoma dark castaneous with light castaneous portions along its length.

**Head** (Fig. 43). Head as long as wide, globoid in profile; gena weakly concave in profile. Mandible with base wider than apex, two lowermost teeth larger than upper ones, lower tooth curved

inward, lower margin strongly setose. Clypeus coriaceous-punctate, median clypeal lobe subangulate, median concavity of median clypeal lobe absent,  $0.08 \times \text{LH}$ , well marked off from frons, median carina present,  $0.1 \times \text{LH}$ . Malar space conspicuous,  $0.32 \times$  mandibular base. Antenna 1.71 mm; first five antennomeres in ratio of about 9:10:10:10:10; flagellomere I  $1.11 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.08 \times \text{LH}$ . Eye not protuberant,  $0.44 \times \text{LH}$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate. WH  $1.0 \times \text{LH}$ . WF  $0.66 \times \text{WH}$ . WF  $0.66 \times \text{HE}$ . OOL  $1.33 \times \text{WOT}$ . VOL  $1.11 \times \text{HE}$ . Distance from posterior ocellus to vertex crest  $1.0 \times \text{DAO}$ . Ocelli large, DAO  $0.12 \times \text{WF}$ , ocellar triangle not compact, distance between posterior ocelli  $2.2 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus distant from vertex. Vertex straight, short setae,  $0.15 \times \text{LH}$ , temple profile approximately parallel in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina sinuous, low.

**Mesosoma** (Fig. 88). Pronotal disc coriaceous-punctate,  $0.41 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $1.25 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $1.0 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $13.3 \times$  its own diameter. Dorsal axillar surface with fovea subrectangular. Metanotum with median region high, coriaceous-punctate, as high as scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.97 \times$  length propodeal disc, complete posterad, located within a shallow median furrow; discal carina  $0.17 \times$  length propodeal disc, converging posterad, slightly arched; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture wholly conspicuous; mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesospectus with posterior depression composed by two large foveae almost fused; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 133) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.15 \times \text{LFW}$ ; distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $0.86 \times \text{Rsa}$ ; M vein  $0.82 \times \text{Rsa}$ ; Rsa slightly

inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with seven distal hamuli, last hamulus adjacent each other.

**Legs.** Profemur swollen,  $0.54 \times$  as wide as long. Metacoxa with median region  $0.56 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex sharpened.

**Metasoma.**  $0.29 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, N[orthern] T[erritory], 23.46S 133.04E, Ellery Gorge, 85 Km W of Alice Springs, 5 Nov[ember] 1979, I.D.Naumann, ANIC.

**Distribution.** Australia.

**Remarks.** This species is very different from the others by having the median clypeal lobe subangulate, the posterior margin of pronotal disc sinuous, the median carina of propodeal disc long and bordered by furrow, and the *Rsb* of forewing almost aligned with *Cua*.

### ***Eupsenella* sp. nov. 36**

(Figs 44, 89, 134)

**Description.** Holotype. Female. Body length 8.81 mm. LFW 4.77 mm.

**Color.** Head dark castaneous almost black; scape, pedicel, flagellum and mandible dark castaneous; palpi castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation dark castaneous; coxae dark castaneous; trochanters castaneous; femora dark castaneous; tarsi castaneous; metasoma dark castaneous almost black.

**Head** (Fig. 44). Head wider than long, subrectangular in profile; gena weakly concave in profile. Mandible with base wider than apex, lowermost tooth larger than upper ones, lower tooth curved outward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe broadly rounded, median concavity of median clypeal lobe absent,  $0.20 \times$  LH, badly marked off from frons, resembling the projection of frons, median carina absent. Malar space conspicuous, very large,  $1.0 \times$  mandibular base. Antenna 2.48 mm; first five antennomeres in ratio of about 15:15:15:14:13; flagellomere I  $1.37 \times$  longer than wide, flagellar pubescence dense, with few outstanding erect setae. Region between torulus and eye angulate medially. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.17 \times$  LH. Eye protuberant,  $0.46 \times$  LH, with sparse hairs, located more laterally, lower margin with strong depression. Frons coriaceous-punctate. WH  $1.28 \times$  LH. WF  $0.65 \times$  WH. WF  $1.95 \times$  HE. OOL  $1.3 \times$  WOT. VOL  $0.53 \times$  HE. Distance from posterior ocellus to vertex crest  $0.5 \times$  DAO. Ocelli



very small, DAO  $0.03 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $5.0 \times DAO$ , anterior ocellus surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex strongly concave, short setae,  $0.13 \times LH$ , temple profile slightly convergent in dorsal view, with corner angulate, slightly projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 89). Pronotal disc polished,  $0.64 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $0.70 \times$  length pronotal disc. Scutellum coriaceous-punctate,  $0.66 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $11.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, foveolate, lower than scutellum in profile, with fovea elliptical laterally. Propodeal disc wider than long, anterior margin of propodeal disc with a foveolate transverse furrow, dilated ends; median carina  $0.68 \times$  length propodeal disc, incomplete posterad, located within a median furrow; discal carina  $0.3 \times$  length propodeal disc, parallel to median carina, straight; space between median and discal carina almost polished and smooth. Almost polished and smooth. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 134) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 present, distinctly longer than 2R1 cell, evenly wide; *Rsb* straight; *Cub* present; 2R1 cell  $0.15 \times LFW$ ; distal margin of *Rsc* convex; *r-rs* vein almost vertical; *R1b* arching distally; *Rs+M* vein  $0.85 \times Rsa$ ; *M* vein  $1.0 \times Rsa$ ; *Rsa* slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur very swollen,  $0.69 \times$  as wide as long. Metacoxa with median region  $0.46 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.33 \times$  as wide as long, weakly coriaceous shining, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, A[ustralia] C[apital] T[erritory], 35.22S 148.48E, Piccadilly Circus, 1240 m, 1/10 – 15/11/1984, Weir, Lawrence, Johnson, ANIC. Paratype. AUSTRALIA, N[ew] S[outh] W[ales], 1 female, Stewarts Brook, State Forest, 31°55'S, 151°23'E, 18 Jan[uary] 1992, Tom Gush in debris at base fallen tree, Tom Gush Collection 3293, ANIC.

**Distribution.** Australia.

**Remarks.** This species is to *E. ceciliae* by having the vertex concave and ocelli small. However this species has the vertex strongly concave, the region between anterior margin of eye and antennal torulus with angulate, the median carina of propodeal disc short, bordered by furrow, the forewing with *Cub* of present, C cell almost inconspicuous, whereas *E. ceciliae* has the vertex slightly concave, the region between anterior margin of eye and antennal torulus concave, the median carina of propodeal disc long, the forewing with *Cub* absent and C cell conspicuous almost by all extension.

***Eupsenella* sp. nov. 37**

(Figs 45, 90, 135)

**Description.** Holotype. Female. Body length 5.05 mm. LFW 3.57 mm.

**Color.** Head light castaneous; scape light castaneous; pedicel, flagellum and mandible castaneous; palpi light castaneous; mesosoma dark castaneous; tegula and wing venation castaneous; coxae, trochanters, femora and tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 45). Head wider than long, subrectangular in profile; gena weakly concave in profile. Mandible evenly wide, teeth sub-equal, lower tooth curved inward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe subangulate, median concavity of median clypeal lobe absent,  $0.10 \times LH$ , well marked off from frons, median carina absent. Malar space inconspicuous, very short, almost touching lower margin of eye,  $0.09 \times$  mandibular base. Antenna 1.48 mm; first five antennomeres in ratio of about 9:9:9:9:9; flagellomere I  $1.3 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.05 \times LH$ . Eye protuberant,  $0.48 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons coriaceous-punctate.  $WH 1.1 \times LH$ .  $WF 0.57 \times WH$ .  $WF 1.18 \times HE$ .  $OOL 0.88 \times WOT$ .  $VOL 0.46 \times HE$ . Distance from posterior ocellus to vertex crest  $1.0 \times DAO$ . Ocelli large,  $DAO 0.11 \times WF$ , ocellar triangle not compact, distance between posterior ocelli  $3.6 \times DAO$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex convex, long setae,  $0.29 \times LH$ , temple profile slightly convergent in dorsal view, with corner convex, not projected postero-laterad. Hipostomal carina slightly arched, high.

**Mesosoma** (Fig. 90). Pronotal collar strongly short, almost absent, evenly narrow. Pronotal disc coriaceous-punctate, short,  $0.36 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow inconspicuous. Notauli parallel to each other. Mesoscutum  $1.63 \times$  length pronotal disc. Scutellum coriaceous,  $1.25 \times$  length pronotal disc, convex in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $12.0 \times$  its own diameter. Dorsal axillar surface with fovea oval. Metanotum with median region almost flat, foveolate, lower than scutellum in profile, with fovea oval laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; posterior region slightly elevated, smooth and continuous to median carina; median carina  $0.17 \times$  length propodeal disc, incomplete posterad; discal carina  $0.09 \times$  length propodeal disc, converging posterad, slightly arched; space between median and discal carina confused-rugulose. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation restricted to posterior region, median suture present. Mesopectus with posterior depression composed by two large foveae almost fused; median suture not evident.

**Wings.** Macropterous. Forewing (Fig. 135) with 1M cell absent, closed, subpentagonal; 1M and 1R1 cells not aligned basally; C cell evenly narrow; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb straight; 2R1 cell  $0.15 \times$  LFW; Distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $1.1 \times$  Rsa; M vein  $1.17 \times$  Rsa; Rsa slightly inclined toward tegula; stigma rectangular; distal stigmal margin truncate. Hind wing with five distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur swollen,  $0.5 \times$  as wide as long. Metacoxa with median region  $0.5 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.22 \times$  as wide as long, weakly coriaceous shining, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, S[outh] A[ustralia], Parachilna C[ree]k, 8 Nov[ember] 1987, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC. Paratypes. AUSTRALIA, S[outh] A[ustralia], 1 female, Parachilna C[ree]k, 8 Nov[ember] 1987, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC; 1 female, 31.20S 138.37E, Trezona Camp, Brachina C[ree]k, 10 Nov[ember] 1987, I.D.Naumann, J.C.Cardale, ex[tracted] ethanol, ANIC.

**Distribution.** Australia.

**Variation.** Body length 4.76–5.23 mm; LFW 3.33–3.57 mm; notauli almost parallel, vertex slightly convex, legs can be lighter.

**Remarks.** This species is similar to *E. flavifemorata* by having the mesoscutum large and the legs light castaneous. However this species has the malar space almost inconspicuous, malar space almost touching lower margin of eye, the vertex crest strongly convex, the pronotal disc with anterior convex, narrow, the posterior margin of scutellum almost straight, the median carina of propodeal disc narrowing towards posterad, whereas *E. flavifemorata* has the malar space clearly conspicuous, malar clearly not touching lower margin of eye, the vertex crest slightly convex, the pronotal disc with anterior almost straight, wide, the posterior margin of scutellum convex, the median carina of propodeal disc evenly wide.

***Eupsenella* sp. nov. 38**

(Figs 46, 91, 136)

**Description.** Holotype. Female. Body length 6.58 mm. LFW 4.1 mm.

**Color.** Head dark castaneous almost black; scape, pedicel and flagellum castaneous; mandible castaneous with teeth dark castaneous; palpi light castaneous; mesosoma dark castaneous almost black; tegula castaneous; wing venation light castaneous; procoxa dark castaneous; mesocoxa, metacoxa, trochanters and profemur castaneous; mesofemur, metafemur and tarsi light castaneous; metasoma dark castaneous.

**Head** (Fig. 46). Head wider than long, subrectangular in profile; gena weakly concave in profile. Mandible evenly wide, lowermost tooth larger than upper ones, lower tooth curved outward, lower margin strongly setose. Clypeus coriaceous, median clypeal lobe subangulate, median concavity of median clypeal lobe absent,  $0.06 \times LH$ , well marked off from frons, median carina absent. Malar space conspicuous,  $0.31 \times$  mandibular base. Antenna 1.9 mm; first five antennal sections antennomeres in ratio of about 11:11:11:11:11; flagellomere I  $1.22 \times$  longer than wide, flagellar pubescence dense, with many outstanding erect setae. Region between torulus and eye slightly concave. Area between the anterior margin of eyes and demarkation of median clypeal lobe  $0.14 \times LH$ . Eye protuberant,  $0.58 \times LH$ , with sparse hairs, located more laterally, lower margin without strong depression. Frons strongly coriaceous-punctate.  $WH 1.28 \times LH$ .  $WF 0.57 \times WH$ .  $WF 1.3 \times HE$ .  $OOL 0.88 \times WOT$ .  $VOL 0.5 \times HE$ . Distance from posterior ocellus to vertex crest  $0.25 \times DAO$ . Ocelli large,  $DAO 0.11 \times WF$ , ocellar triangle not

compact, distance between posterior ocelli  $2.4 \times \text{DAO}$ , anterior ocellus not surpassing imaginary top eye line, posterior ocellus almost reaching vertex. Vertex concave, long setae,  $0.20 \times \text{LH}$ , temple profile slightly convergent in dorsal view, with corner angulate, not projected postero-laterad. Hipostomal carina arched, low.

**Mesosoma** (Fig. 91). Pronotal disc coriaceous-punctate,  $0.42 \times$  as long as wide, anterior corner rounded, posterior margin concave medially, pronotal disc without short longitudinal furrow. Parapsidal furrow wholly conspicuous. Notauli convergent posterad. Mesoscutum  $0.75 \times$  length pronotal disc. Scutellum coriaceous,  $0.74 \times$  length pronotal disc, almost flat in profile, posterior margin convex medially, scutellar pit elliptical, narrowed, distant each other  $11.0 \times$  its own diameter. Dorsal axillar surface with fovea subrectangular. Metanotum with median region almost flat, coriaceous-punctulate, lower than scutellum in profile, with fovea elliptical laterally. Propodeal disc wider than long; anterior margin without foveolate or transverse furrow; median carina  $0.18 \times$  length propodeal disc, incomplete posterad; discal carina  $0.05 \times$  length propodeal disc, converging posterad, slightly arched; space between median and discal carina almost polished and smooth. Mesopleuron with subtegular furrow oval; mesepimeral suture almost inconspicuous posterad, mesopleural epicoxal lobe inconspicuous. Propleuron with sequence of foveae from anterior margin of prosternum until cervical collar absent. Prosternum with median excavation complete, median suture present. Mesopectus with posterior depression heart-shaped; median suture evident.

**Wings.** Macropterous. Forewing (Fig. 136) with 1M cell subpentagonal; 1M and 1R1 cells not aligned basally; C cell widening distally; 1R1 cell present, distinctly longer than 2R1 cell, evenly wide; Rsb convex; 2R1 cell  $0.15 \times \text{LFW}$ ; Distal margin of Rsc convex; r-rs vein inclined; R1b entirely on anterior margin of forewing; Cub absent; Rs+M vein  $0.8 \times \text{Rsa}$ ; M vein  $1.0 \times \text{Rsa}$ ; Rsa subperpendicular to anterior margin of forewing; stigma rectangular; distal stigmal margin truncate. Hind wing with four distal hamuli, last hamulus discontinuous each other.

**Legs.** Profemur very swollen,  $0.65 \times$  as wide as long. Metacoxa with median region  $0.5 \times$  as wide as long. Metacoxal projection in dorsal region conspicuous, apex rounded.

**Metasoma.**  $0.3 \times$  as wide as long, ventral carina of petiole present.

**Material examined.** Holotype. AUSTRALIA, Q[ueensland], (near School), 9 May 1980, yellow pan trap (ethanediol), transferred to alcohol, I.D.Naumann, J.C.Cardale, ANIC.

**Distribution.** Australia.

**Remarks.** This species is similar to *E. ceciliae* and *Eupsenella* sp. nov. 36. *Eupsenella* sp. nov. 38 resembles *E. ceciliae* by having the vertex crest concave, the median clypeal lobe subangulate to slightly rounded, median carina of clypeus absent, eyes protuberant, but it differs from it by having the median clypeal lobe clearly shorter, the eyes large, the median carina of propodeal disc very short, whereas *E. ceciliae* has the median clypeal lobe broad and slightly long, the eyes large, and the median carina of propodeal disc long. When it is compared with *Eupsenella* sp. nov. 36 one notes that both species presents clypeus with the median clypeal lobe without median carina, the vertex crest concave, the eyes small and protuberant. However this species has the area between the anterior margin of eyes and demarkation of median clypeal lobe short, the median clypeal lobe subangulate, short, well-defined in relation to frons and region between the anterior margin of eye and antennal torulus not angulate, whereas *Eupsenella* sp. nov. 36 has the area between the anterior margin of eyes and demarkation of median clypeal lobe long, the median clypeal lobe broad, the median clypeal lobe ill-defined in relation to frons and the region between the anterior margin of eye and antennal torulus angulate.

#### 4. Discussion

*Eupsenella* has the dorsal metacoxal projection. This character is not find in others subfamilies of Bethylidae. This structure was recorded only for *E. diemenensis* by Terayama (1995) but it is present in all species of *Eupsenella* and in some species of *Goniozus*, *Sierola*, *Odontepyris* and *Lytopsenella*. It is very variable among the species, almost imperceptible to clearly visible.

All species studied have four apical mandibular teeth as all valid species of Bethylinae. However Westwood (1874) cited five to six apical mandibular teeth in the original description of the genus, when he described only *E. agilis*.

The dorsal surface of head in *Eupsenella* is not so flattened. Some species as *E.* sp. nov. 13, *E.* sp. nov. 25, *E.* sp. nov. 30, *E.* sp. nov. 36 and *E.* sp. nov. 37 have slight flatness. However it is more pronounced in *E.* sp. nov. 7 and *E.* sp. nov. 8. This pattern of variation is new to *Eupsenella* because was not observed in any of the previously described species to the genus. Such species mentioned of *Eupsenella* has clearly only the dorsal surface of head flattened, unlike what may be found in other genera of Bethylidae, such as *Foenobethylus* Kieffer and *Tuberepyris* Lanes & Azevedo that their species has the body entirely flattened (see Azevedo & Lanes 2007 and Lanes & Azevedo 2008 respectively).

The lateral clypeal lobes are very short, but the median one is conspicuous and its shape has strong interspecific variation, such as: rounded, angulate and truncate, as indicated by Gordh & Harris (1996). None new shape for the median clypeal lobe was found. However, a high degree of interspecific variation can be found, especially in respect the degree of length of median clypeal lobe and the degree of height of the median carina of the same (Figs 3–47).

The area between the anterior margin of eye and antennal torulus is usually convex in profile in *Eupsenella*. However in *E. sp. nov. 36* this area has the profile clearly angulated. This pattern of variation is new to *Eupsenella* because was not observed in any of the previously described species to the genus.

The prosternum in *Eupsenella* is clearly large, about  $1.0 \times$  procoxa. That resembles the species of Scolebythidae and *Megaprosternum* Azevedo, although it is not as large as in their species. In *Eupsenella* the prosternum can reach  $1.0 \times$  procoxa, whereas in *Megaprosternum* the prosternum can reach about  $2.0 \times$  procoxa (Azevedo 2006).

The characters related to wing venation in *Eupsenella* are especial useful for delimiting species. The wing venation of *Eupsenella* is of one of the most important taxonomic tool for demilting species because it varies in shape, thickness and length. The veins R and 1Cu of forewing are the most variable. One of the most important variation is the orientation of Rsa of forewing which is clearly perpendicular in *E. sp. nov. 18*, *E. sp. nov. 26*, and *E. sp. nov. 29* (Figs 116, 124, 127 respectively) or slightly inclined toward the tegula as in *E. diemenensis*, *E. insulana*, and *E. sp. nov. 2* (Figs 94, 96–97, 100 respectively). The Rsb of forewing also varies a lot, it is clearly straight in *E. flavifemorata*, *E. reticulata*, *E. sp. nov. 2*, *E. sp. nov. 6* and *E. sp. nov. 7* (Figs 95, 98, 100, 104, 105 respectively) or slightly convex in *E. diemenensis*, *E. insulana*, *E. sp. nov. 11*, *E. sp. nov. 22* and *E. sp. nov. 27* (Figs 94, 96–97, 109, 120, 125 respectively). The wing venation is also important for other genera of Bethylinae. For instance, species of *Goniozus* can either have the areolate (1M cell) in the forewing or not (see Polaszek & Krombein 1994). This difference has been especially used for separating *Goniozus* Förster (*sensu* Evans 1978), *Perisierola* Kieffer and *Parasierola* Cameron based on morphological grounds (Evans 1964) and behavioral grounds (Gordh & Evans 1976). However, the latter two genera were synonymised with *Goniozus* by Evans (1978), based on the fact that these genera are nearly identical in structure and exhibit no known differences in life style. However, a profound revision of *Goniozus* is necessary to reassess these interpretations.

Here we described the first two brachypterous species, which has the Rsc of forewing ending abruptly at a short distance from the stigma. In *E. sp. nov. 32* there are two closed cells, radial and first cubital cell in the forewing (Fig. 130) and *E. sp. nov. 33* has five closed cells (Fig. 131). The wing venation always are reduced. This pattern is new for species of *Eupsenella*, but can be observed in several genera. For instance, in *Cephalonomia* Westwood four pattern of development of the wings in both sexes (Evans 1964): macropterous in both sexes; males macropterous and females macropterous or brachypterous; males macropterous or apterous and females apterous; and males macropterous or apterous and females macropterous, micropterous or apterous.

The hypopygium in *Eupsenella* is characterized by having the posterior margin with two teeth small and closed to each other (Figs 138–144). This shape of margin is unique among the bethylid genera. Nevertheless, these teeth are variable among the species. They vary gradually on thickness and proximity, so they are useful to the taxonomy of the group. This sternite has also been demonstrated to be an useful tool for demiting species in several genera, but in Mesitinae it is efficient for separate even genera (see Argaman 2003).

This study represents a substantial taxonomic advance regarding about the comprehension of male genitalia in *Eupsenella*. The only species whose male was hitherto known is *E. insulana*. Here we described six more species based on males. The genitalia have showed as an useful tool for species delimitation of *Eupsenella*, as for in several other genera of Bethylidae as *Prosierola*, Kieffer (Azevedo 2008), *Lytopsenella*, Kieffer (Azevedo 2009), *Odontepyris*, Kieffer (Alencar & Azevedo 2011), *Dissomphalus* Ashmead (Azevedo 1999, 2001, 2003), *Foenobethylus* Kieffer (Várkonyi & Polaszek 2007), *Dicrogenium* Staldermann, *Neodicrogenium* Benoit and *Pristocera* Klug (Benoit 1963).

The paramere of male genitalia is doble, that is, there are two laminae which originate independently from the basipapemere (Figs 145–153, 157–165). Only *E. sp. nov. 3* has the paramere simple (Figs 154–156) as the most genera of the bethylids. Species where the parameres can be simple or doble is observed in, for instance, in *Prosierola* Kieffer (Azevedo 2008), whereas *Lytopsenella* Kieffer, for instance, has only species with male genitalia with paramere doble (Azevedo 2009).

All species described here are based on only one sex. The association between males and females based on morphological observation seems to be a tough task as usual for the bethylids. The males of *E. sp. nov. 2* have a median longitudinal furrow (Fig. 55) close to apical margin of pronotal disc and median pit evident and deep associated with pronotal collar. These characteristics were also found in the females of *E. sp. nov. 7* (Fig. 60). However this is little conclusive to determine if they are the same



species. Gordh & Harris (1996) established this association for *E. insulana*, because the specimens were reared from *Harmologa amplexana* (Zeller) in the nest *Ancistrocerus gazella* (Panzer). The male and female adult specimens emerged together, thus leaving little doubt these sex association.

The species of *Eupsenella* are restricted to Australia. The only exception is *E. insulana*, which also occurs to New Zealand. Although the known geographical distribution of several species has been broadened with this study, the known distribution of the genus still confined to Australian region.

This paper increases the information to *Eupsenella*, extends the records of geographical distribution of its species, as well as improves the characters used in the delimitation of species and genus. In addition, it was possible discover new structural patterns and confirm some pre-existing ones.

## 5. Conclusion

From this work taxonomic of *Eupsenella* were possible the following achievements:

- *Eupsenella* is now represented by 43 species described for the Australian region;
- All descriptions of the male specimens, including *E. insulana* Gordh & harris, now contains a supplement describing the hypopygium and genitalia;
- *Eupsenella* becomes recognized for having species brachypterous and macropterous species;
- For the first time new species are proposed based on male specimens;
- The Australian species of the region can be identified from taxonomic keys proposed here;
- New characters and character states began to be referred to the genus such as gena with strong depression, lateral lobe inconspicuous, vertex strongly concave, Pronotal disc with short longitudinal furrow, mesoscutum reduced, subtegular furrow elliptical, prosternum expanded, escavated medially, with median suture, Mesopectus with posterior depression heart-shaped and also those related to forewing, genitalia and hypopygium.

## 6. Acknowledgements

We are grateful to Nicole Fisher, Peter Hudson, Sándor Csősz and Darren Ward for the loaning the material studied; to Diego N. Barbosa for comments on the taxonomic portion and bringing a specimen of *E. agilis* which was deposited on HNHM.; to Glenda Barbosa by digital treatment of the photos; to CAPES for the Master Sciences scholarship to the first author, CNPq grants #303216/2004–2, #306231/2007–7, #502656/2007–7 and 301669/2010–4 for the fellowships provided to second author, to CNPq grants #563953/05–5, #474116/2003–4, #473386/2008–9, #502958/2008–1 and #501185/2010–0, and to FAPES grants #39353842/07, #41106407/08 and #45429065/2009 for the financial support; to Programa de Taxonomia - CNPq grant #563953/05–5, to Programa Casadinho - CNPq grants #620064/2006–4 and 620068/2008–6.

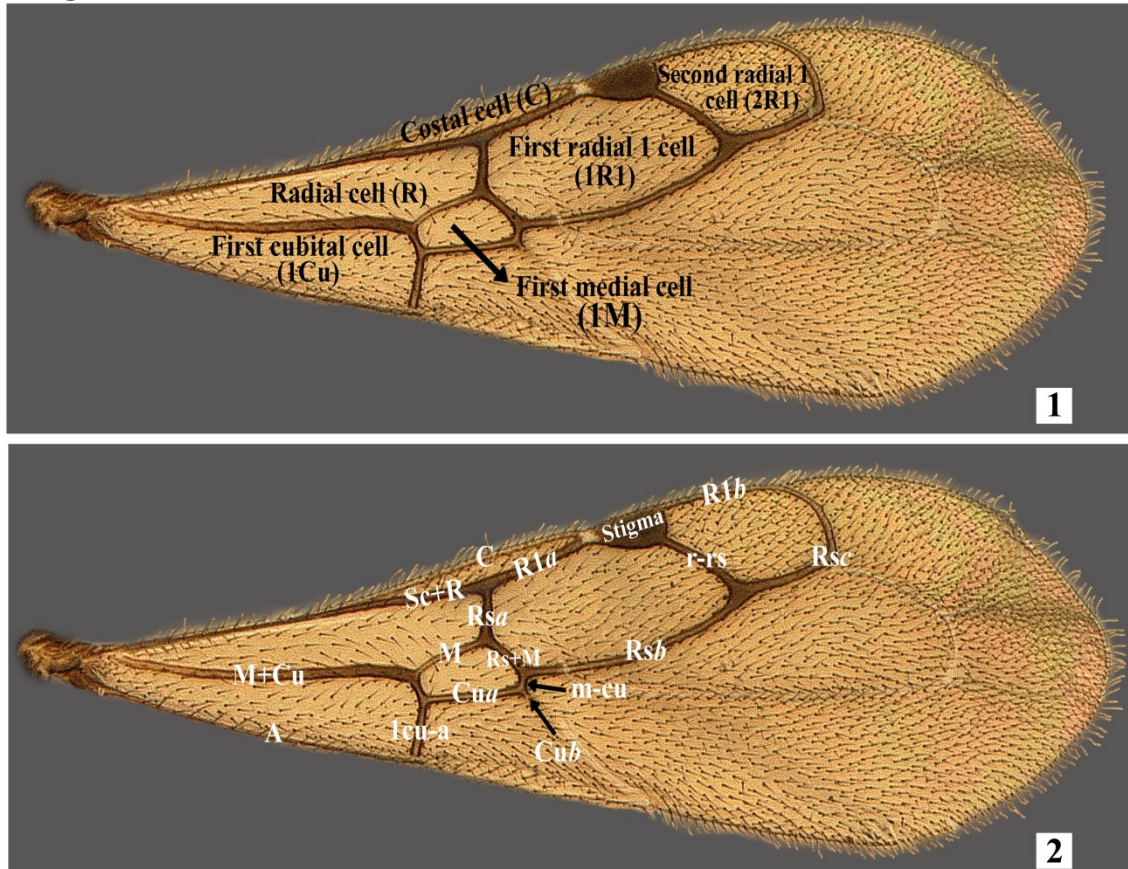
## 7. References

- Argaman, Q. (2003) Generic synopsis of Mesitinae Kieffer, 1914 (Hymenoptera: Bethylidae). *Entomofauna*, 24, 61–96.
- Alencar, I.D.C.C. & Azevedo, C.O. (2011) Revision of Malagasy *Odontepyrus* Kieffer (Hymenoptera, Bethylidae). *Zootaxa*, 2935: 26–40.
- Azevedo, C.O. (1999) Revision of the Neotropical *Dissomphalus* Ashmead, 1893 (Hymenoptera, Bethylidae) with median tergal processes. *Arquivos de Zoologia, Museu de Zoologia de São Paulo*, 35, 301–394.
- Azevedo, C.O. (2001) Systematic of the Neotropical *Dissomphalus* Ashmead (Hymenoptera, Bethylidae) of the bicavatus group. *Revista Brasileira de Entomologia*, 18, 172–205.
- Azevedo, C.O. (2003) Synopsis of the Neotropical *Dissomphalus* (Hymenoptera, Bethylidae). *Zootaxa*, 338, 1–74.
- Azevedo, C.O. (2008) Synopsis of *Prosierola* (Hymenoptera, Bethylidae). *Zootaxa*, 1912, 45–58.
- Azevedo, C.O. (2009) Synopsis of *Lytopsenella* (Hymenoptera, Bethylidae). *Zootaxa*, 2286: 58–64.
- Benoit, P.L.G. (1963) Monographie des Bethylidae d'Afrique noire (Hymenoptera) I. Sous-famille *Pristocerinae* Tribu *Dicrogeniini* Tribu *Pristocerini*, Gen. *Pristocera* Klug. *Annales Musée Royal de l'Afrique Centrale, Sciences Zoologiques*, 119, 1–95.
- Comstock, J.H., & Needham, J.G. (1898–1899) The wings of insects. *The American Naturalist*, 32–33.

- Dallwitz, M.J. (1980) A general system for coding taxonomic descriptions. *Taxon*, 29, 41–46.
- Dallwitz, M.J., Paine, T.A. & Zurcher, E.J. (1999) *DELTA - Description Language for Taxonomy, User's guide to the DELTA Editor*. Available from: <http://delta-intkey.com/> (13/05/2011).
- Dodd, A.P. (1916) Australian Hymenoptera: Proctotrypoidea. No. 4. *Royal Society of South Australia. Transactions and Proceedings*. 40: 9–32.
- Evans, H.E. (1964) A Synopsis of the American Bethyridae (Hymenoptera, Aculeata). *Bulletin of the Museum of Comparative Zoology* 132:1–122.
- Evans, H.E. (1966) Further studies on Neotropical Pristocerinae (Hymenoptera, Bethyridae). *Acta Hymenopterologica* 2: 99–117.
- Evans, H.E. (1978) The Bethyridae of America North of Mexico. *Memoirs of the American Entomological Institute*, 27:1–332.
- Gordh, G. & Evans, H.E. (1976) A new species of *Goniozus* imported into California from Ethiopia for the biological control of pink bollworm and some notes on the taxonomic status of *Parasierola* and *Goniozus* (Hymenoptera: Bethyridae). *Proceedings of the Entomological Society of Washington*, 78:479–489.
- Gordh, G. & Harris, A. (1996) New records and a new species of *Eupsenella* (Hymenoptera: Bethyridae) in New Zealand. *Journal of The Royal Society of New Zealand*, 26:529–536.
- Harris, R.A. (1979) A glossary of surface sculpturing. *Occasional Papers in Entomology*, 28, 1–31.
- Huber, J.T. & Sharkey, M.J. (1993) Structure. In: Goulet, H. & Huber, T.J. (Eds.) *Hymenoptera of the World: An Identification Guide to Families*. Research Branch Agriculture Canada Publication 1894/E, Ottawa, pp. 13–59.
- Kieffer, J. J. (1911) Nouveaux Bethyrides et Dryinides exotiques du British Museum de Londres. *Société Scientifique de Bruxelles Annals*. 35: 200–233.
- Lanes, G.O. & Azevedo, C.O. 2008. Phylogeny and Taxonomy of Sclerodermini (Hymenoptera, Bethyridae, Epyrinae). *Insect Systematic and Evolution*, 39: 55–86.
- Mikó, I., Vilhelmsen, L., Johnson, N.F., Masner, L. & Péntzes, Z. (2007) Skeletomusculature of Scelionidae (Hymenoptera: Platygastroidea): head and mesosoma. *Zootaxa*, 1571: 1–78.
- Riek, E.F. (1970) Hymenoptera, pp. 867–959. In: CSIRO, The Insects of Australia. *Melbourne University Press*, Melbourne.
- Terayama, M. (1995) Phylogeny and Distribution of the subfamily Bethylinae (Hymenoptera: Chrysidoidea: Bethyridae). *Bulletin of the Biogeographical Society of Japan*, 50: 1–9.

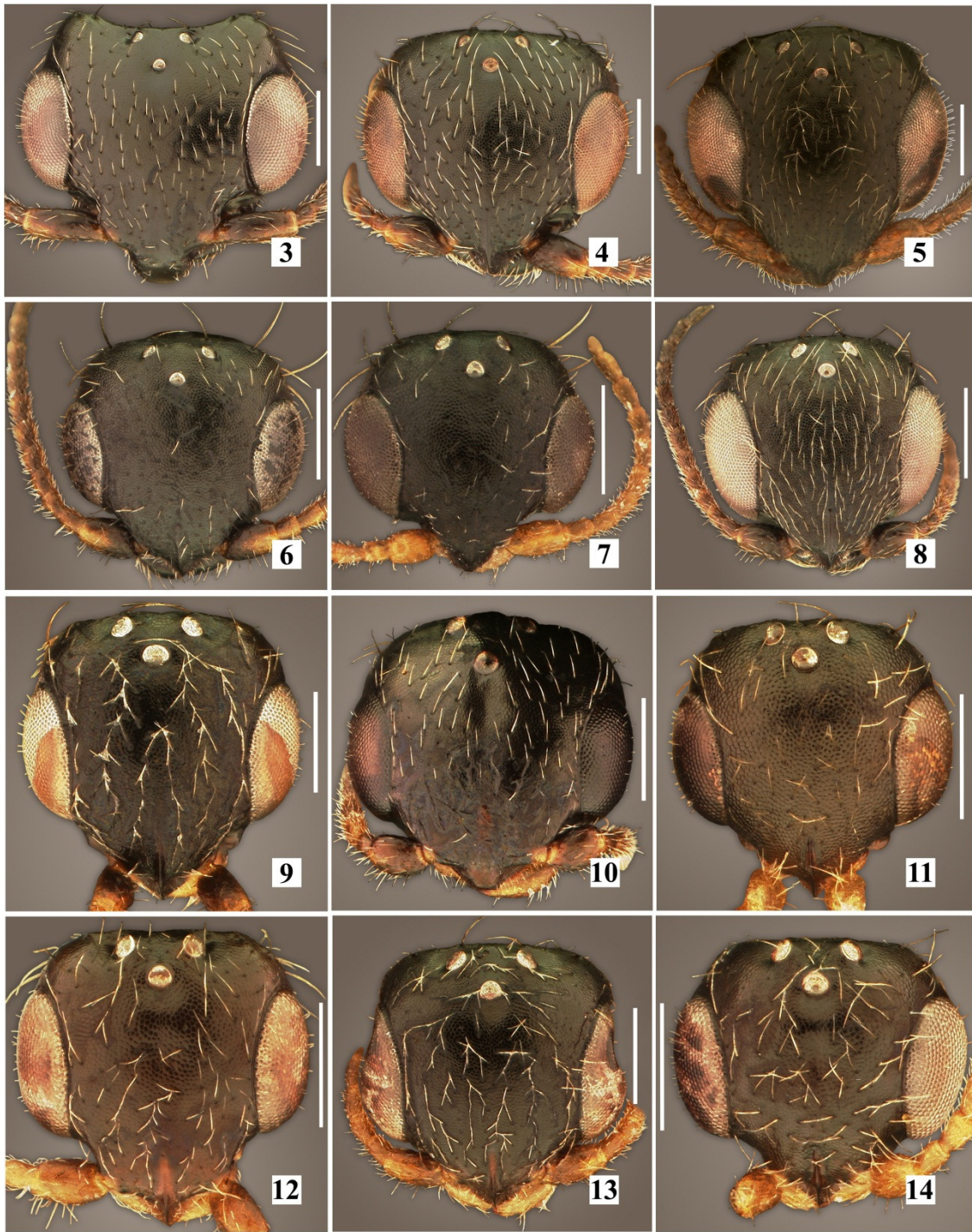
- Terayama, M. (2004) Descriptions of New Taxa and Distribution Records of the Family Bethylidae (Insecta, Hymenoptera) II. Subfamily Bethylinae and Fossil Taxa. ACADEMIC REPORTS Faculty Engineering. *Tokyo Polytechnic University*. 27:39–41.
- Várkonyi, G. & A. Polaszek (2007) Rediscovery and revision of *Foenobethylus* Kieffer, 1913 (Hymenoptera, Bethylidae). *Zootaxa*, 1546, 1–14.
- Westwood, J.O. (1874) Thesaurus Entomologicus Oxoniensis. *Clarendon Press, Oxford*. 4: 1–205, 40 plates.

## 8. Figures



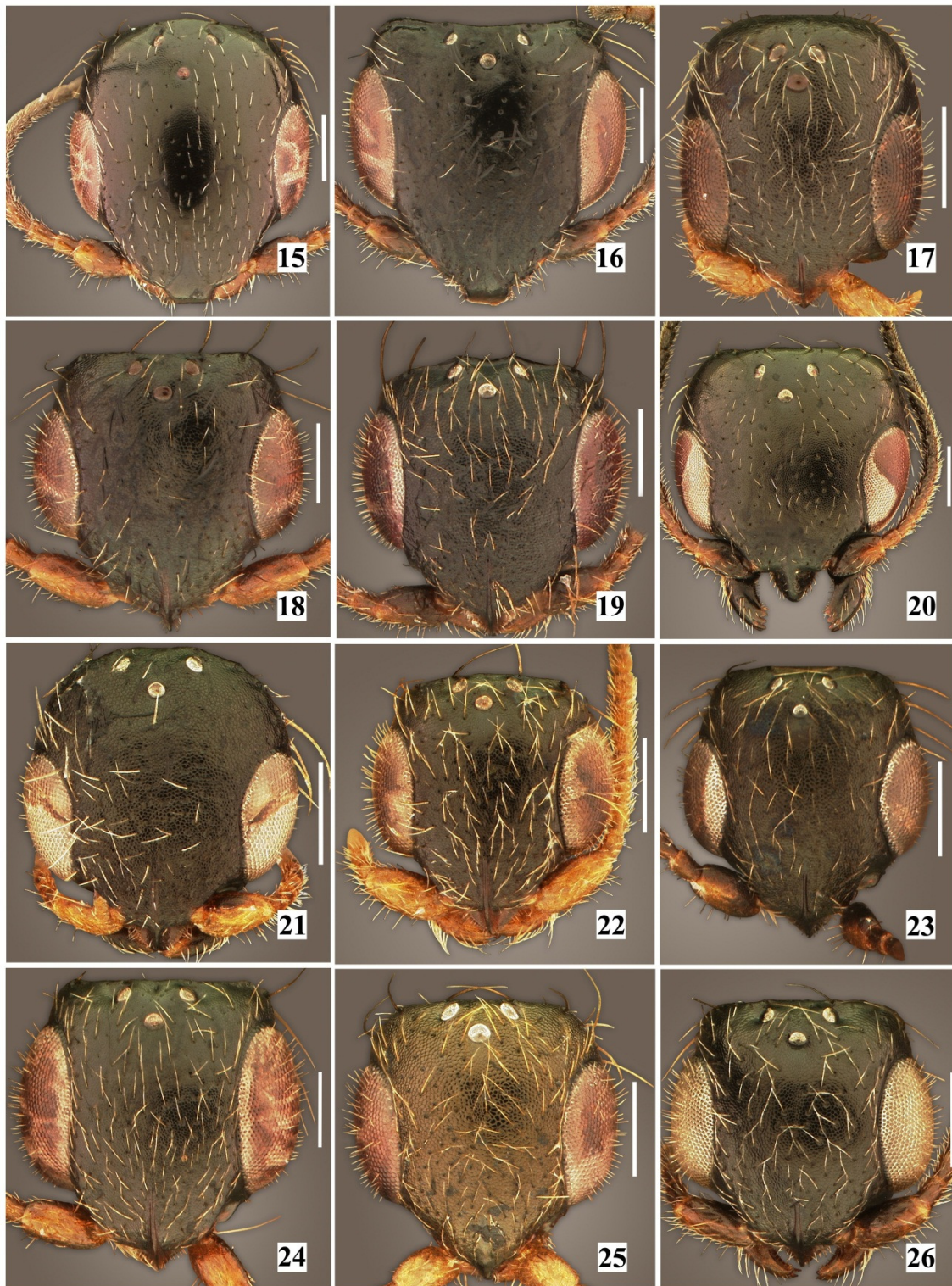
**Figures 1–2.** Forewing. 1–2 *Eupsenella* sp. nov. 8; 1. Cells of forewing. 2. Veins of forewing.





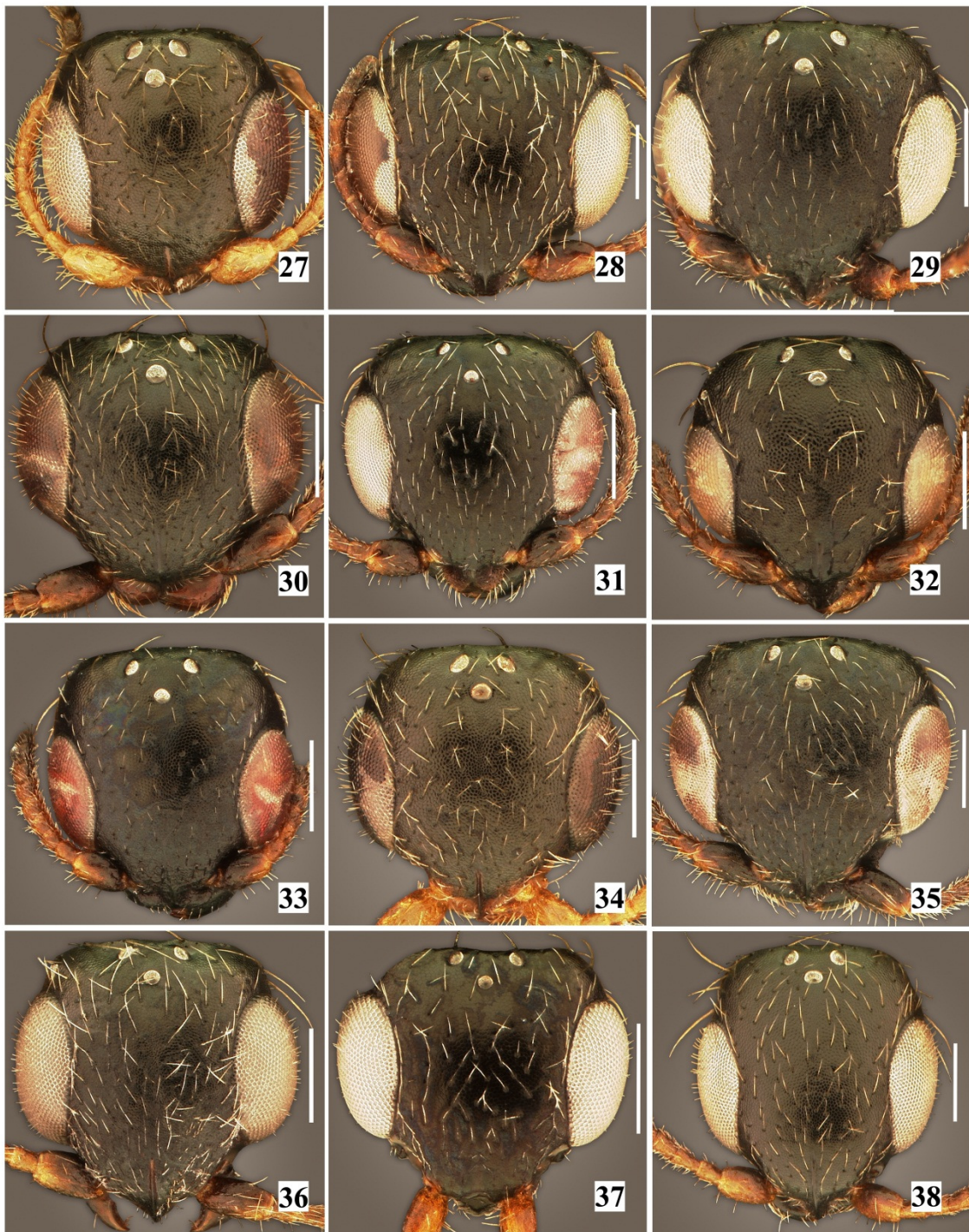
**Figures 3–14.** Head in dorsal view. 3. *Eupsenella ceciliae*. 4. *E. diemenensis*. 5. *E. flavifemorata*. 6. *E. insulana* female. 7. *E. insulana* male. 8. *E. reticulata*. 9. *E. sp. nov.* 1. 10. *E. sp. nov.* 2. 11. *E. sp. nov.* 3. 12. *E. sp. nov.* 4. 13. *E. sp. nov.* 5. 14. *E. sp. nov.* 6. (Scale bar = 300  $\mu$ m).





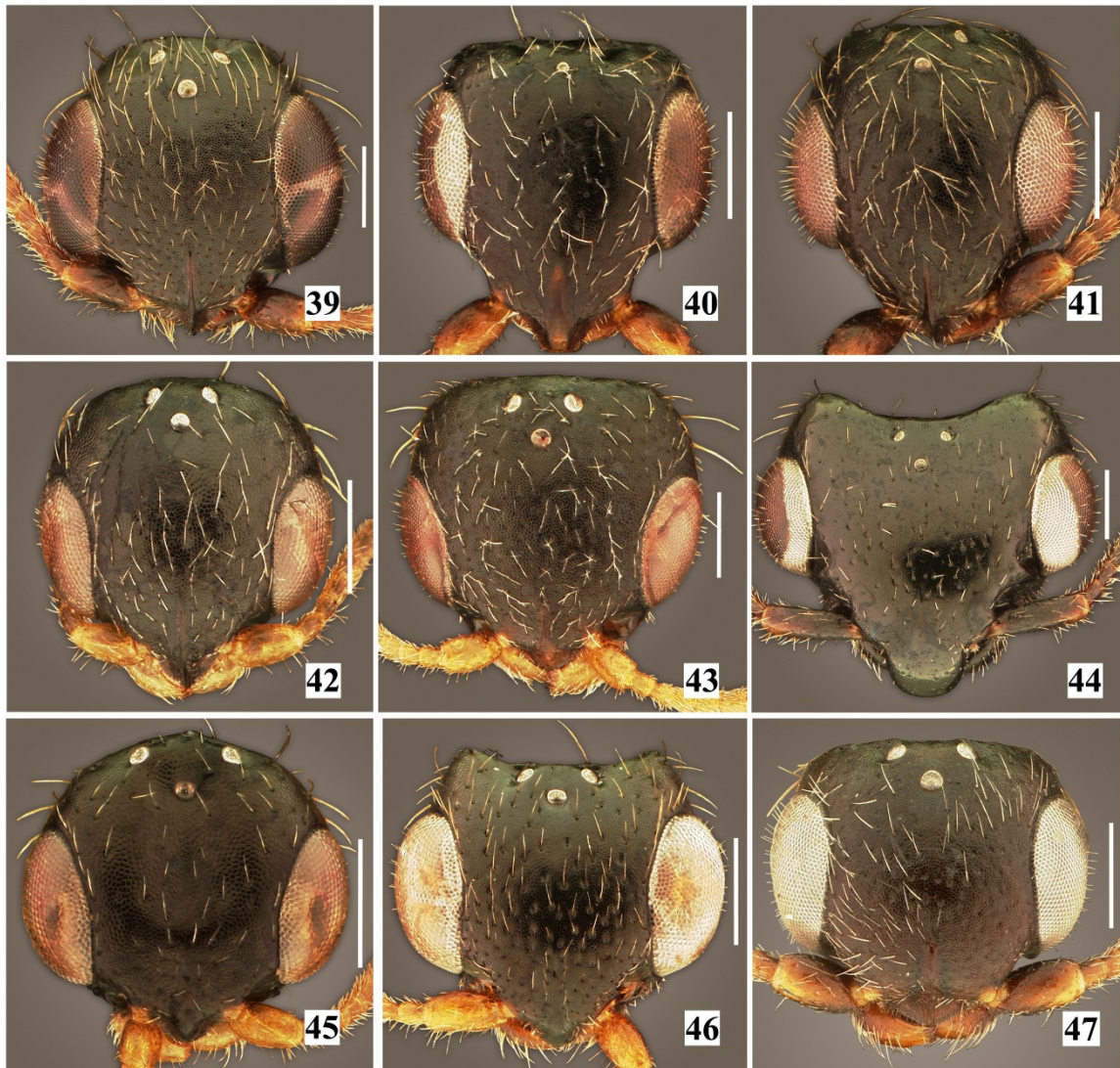
**Figures 15–26.** Head in dorsal view. 15. *E. sp. nov.* 7. 16. *E. sp. nov.* 8. *E. sp. nov.* 9. 18. *E. sp. nov.* 10. 19. *E. sp. nov.* 11. 20. *E. sp. nov.* 12. 21. *E. sp. nov.* 13. 22. *E. sp. nov.* 14. 23. *E. sp. nov.* 15. 24. *E. sp. nov.* 16. 25. *E. sp. nov.* 17. 26. *E. sp. nov.* 18. (Scale bar = 300  $\mu$ m).





**Figures 27–38.** Head in dorsal view. 27. *E. sp. nov.* 19. 28. *E. sp. nov.* 20. 29. *E. sp. nov.* 21. 30. *E. sp. nov.* 22. 31. *E. sp. nov.* 23. 32. *E. sp. nov.* 24. 33. *E. sp. nov.* 25. 34. *E. sp. nov.* 26. 35. *E. sp. nov.* 27. 36. *E. sp. nov.* 28. 37. *E. sp. nov.* 29. 38. *E. sp. nov.* 30. (Scale bar = 300  $\mu$ m).





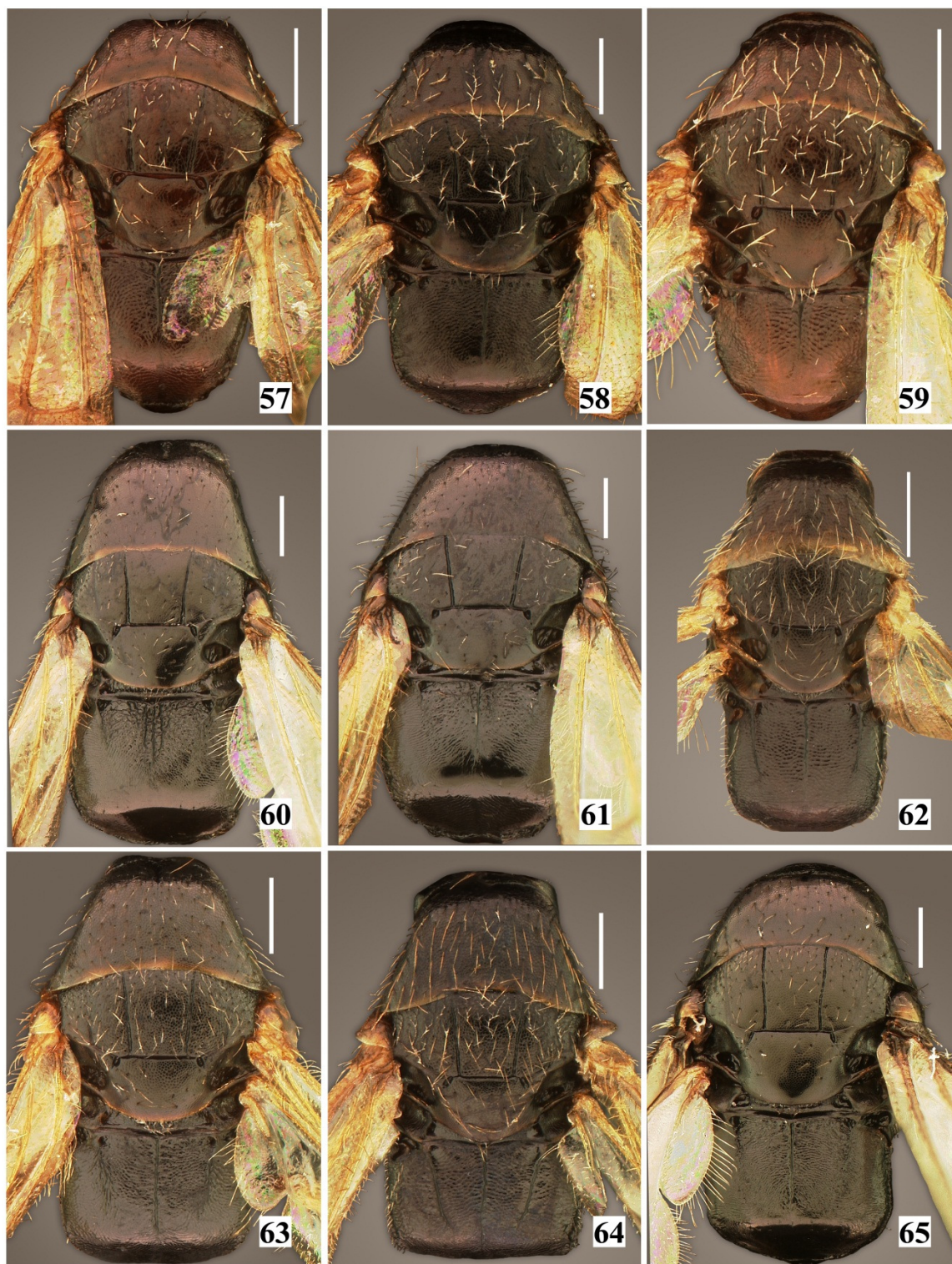
**Figures 39–47.** Head in dorsal view. 39. *E. sp. nov.* 31. 40. *E. sp. nov.* 32. 41. *E. sp. nov.* 33. 42. *E. sp. nov.* 34. 43. *E. sp. nov.* 35. 44. *E. sp. nov.* 36. 45. *E. sp. nov.* 37. 46. *E. sp. nov.* 38. 47. *E. agilis*. (Scale bar = 300  $\mu$ m).





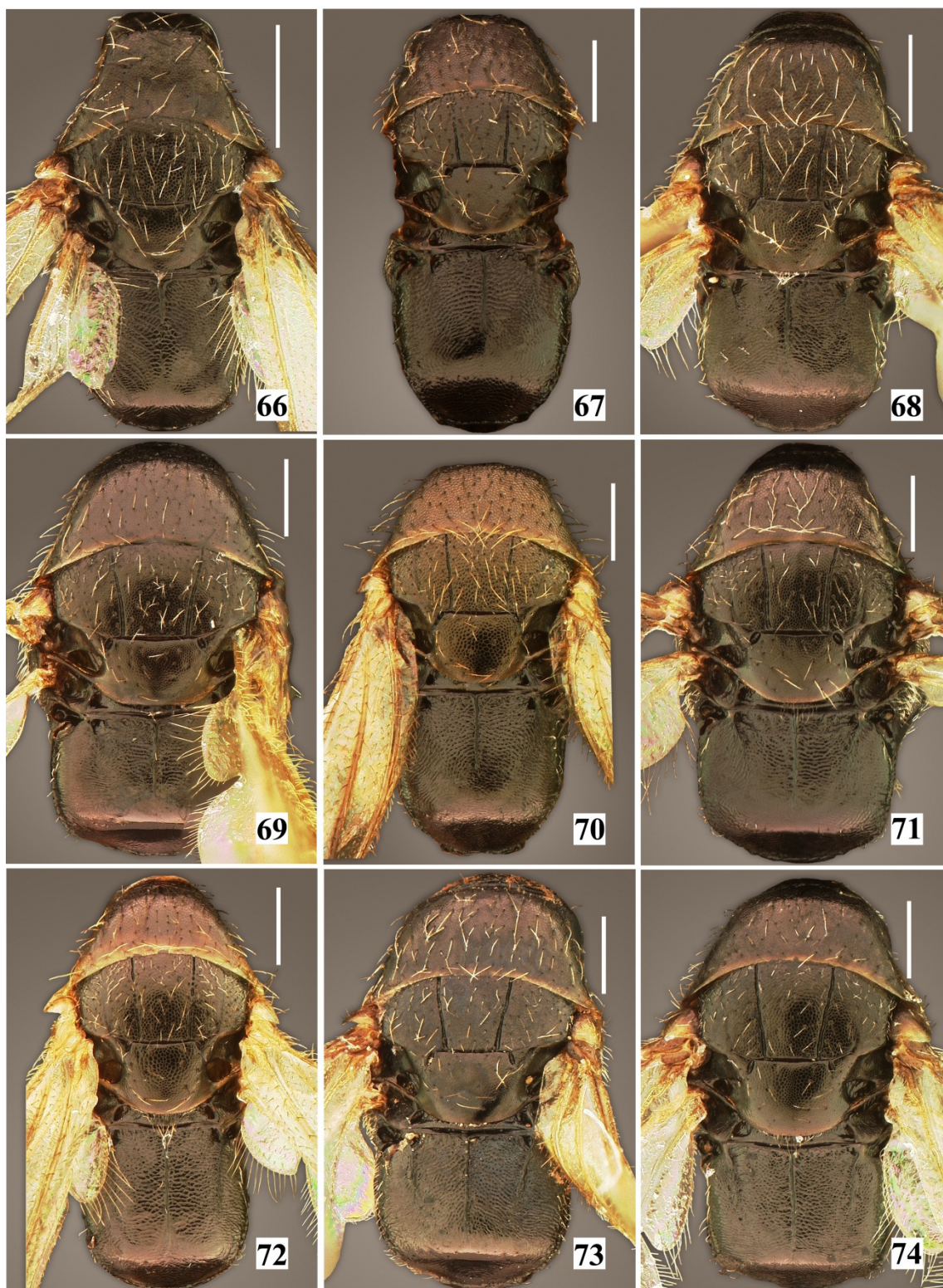
**Figures 48–56.** Mesosoma in dorsal view. 48. *Eupsenella ceciliae*. 49. *E. diemenensis*. 50. *E. flavifemorata*. 51. *E. insulana* female. 52. *E. insulana* male. 53. *E. reticulata*. 54. *E. sp. nov. 1*. 55. *E. sp. nov. 2*. 56. *E. sp. nov. 3*. (Scale bar = 300  $\mu$ m).





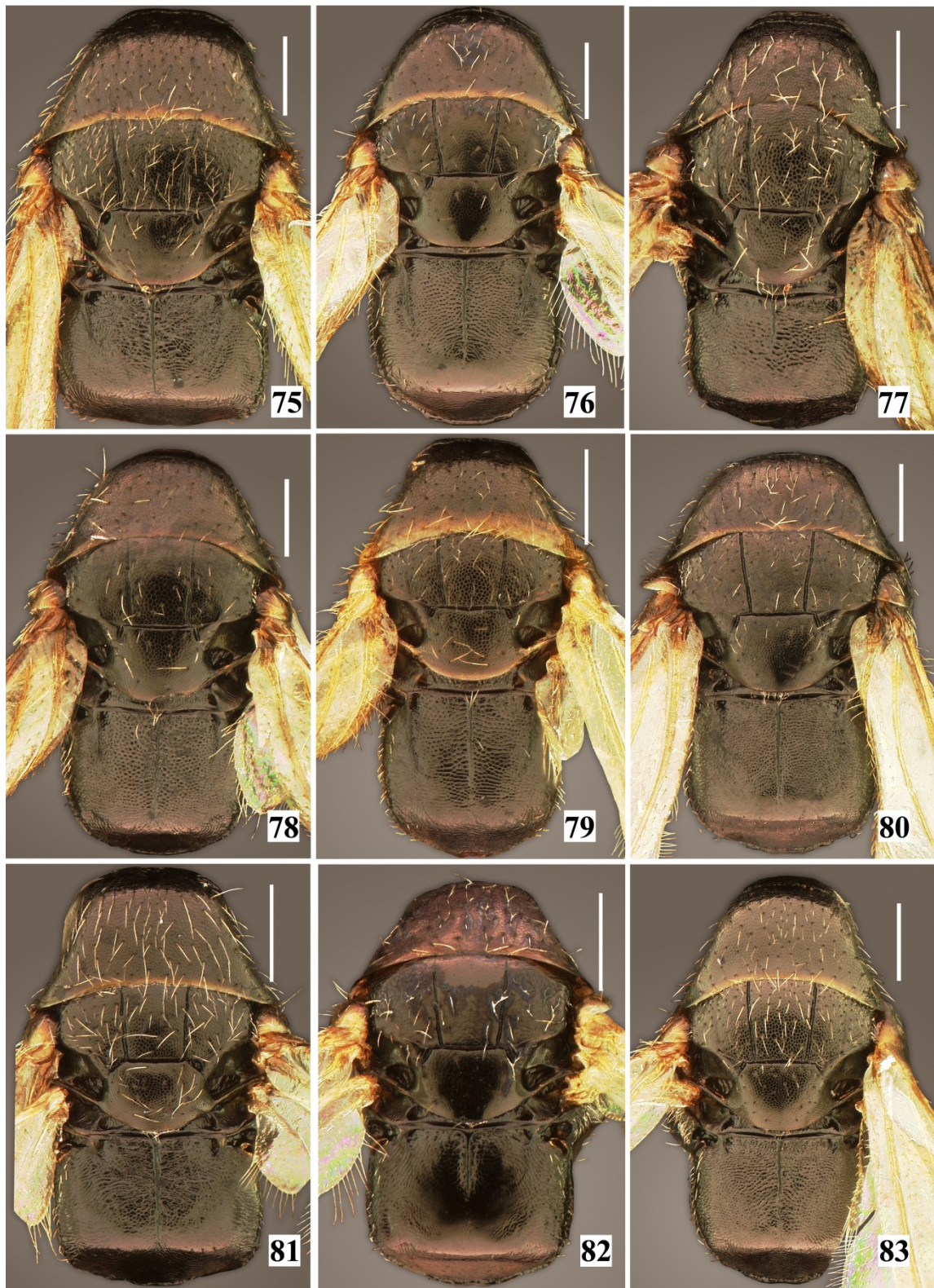
**Figures 57–65.** Mesosoma in dorsal view. 57. *E. sp. nov.* 4. 58. *E. sp. nov.* 5. 59. *E. sp. nov.* 6. 60. *E. sp. nov.* 7. 61. *E. sp. nov.* 8. 62. *E. sp. nov.* 9. 63. *E. sp. nov.* 10. 64. *E. sp. nov.* 11. 65. *E. sp. nov.* 12. (Scale bar = 300  $\mu$ m).





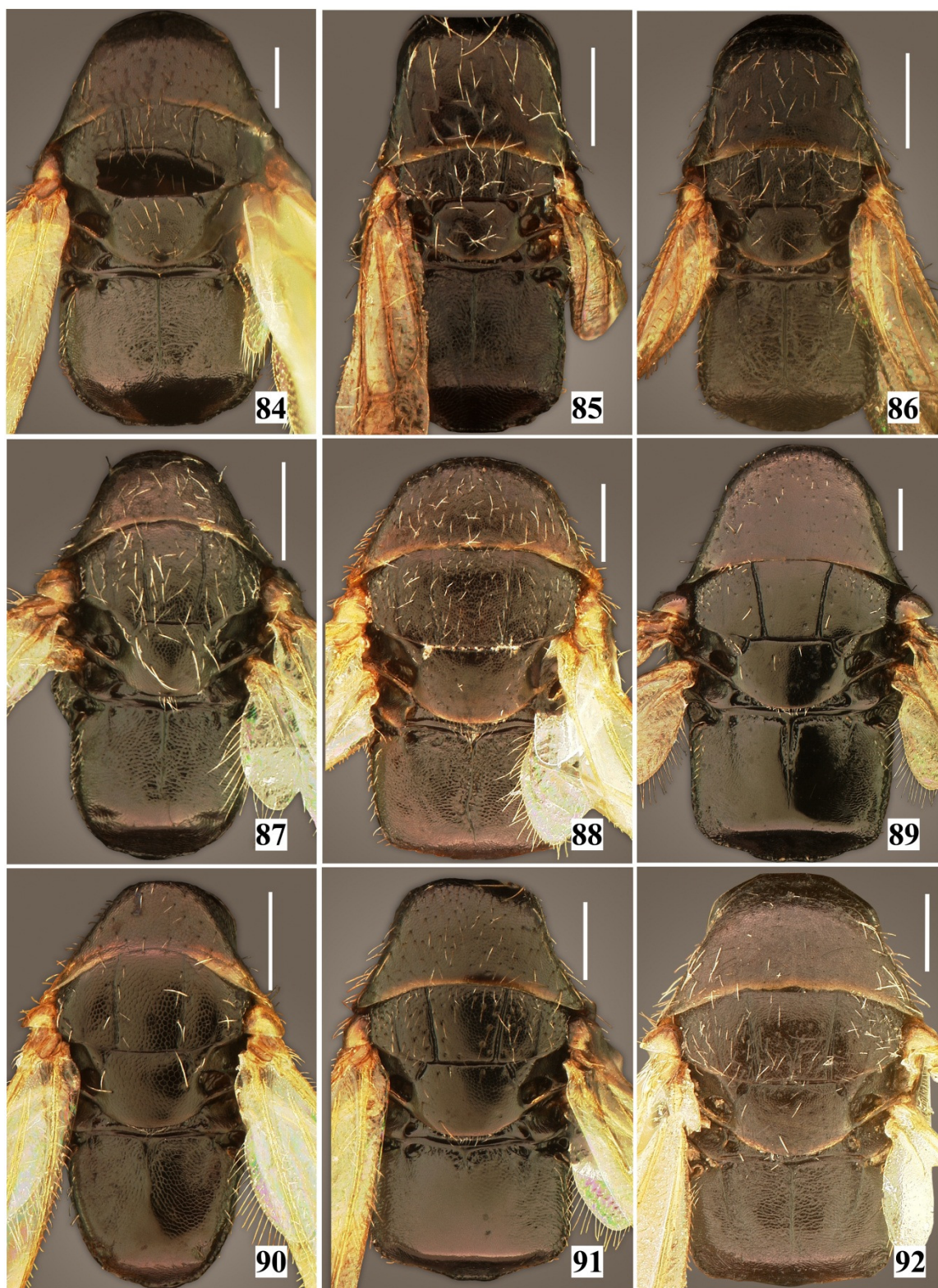
**Figures 66–74.** Mesosoma in dorsal view. 66. *E. sp. nov.* 13. 67. *E. sp. nov.* 14. 68. *E. sp. nov.* 15. 69. *E. sp. nov.* 16. 70. *E. sp. nov.* 17. 71. *E. sp. nov.* 18. 72. *E. sp. nov.* 19. 73. *E. sp. nov.* 20. 74. *E. sp. nov.* 21. (Scale bar = 300  $\mu$ m).





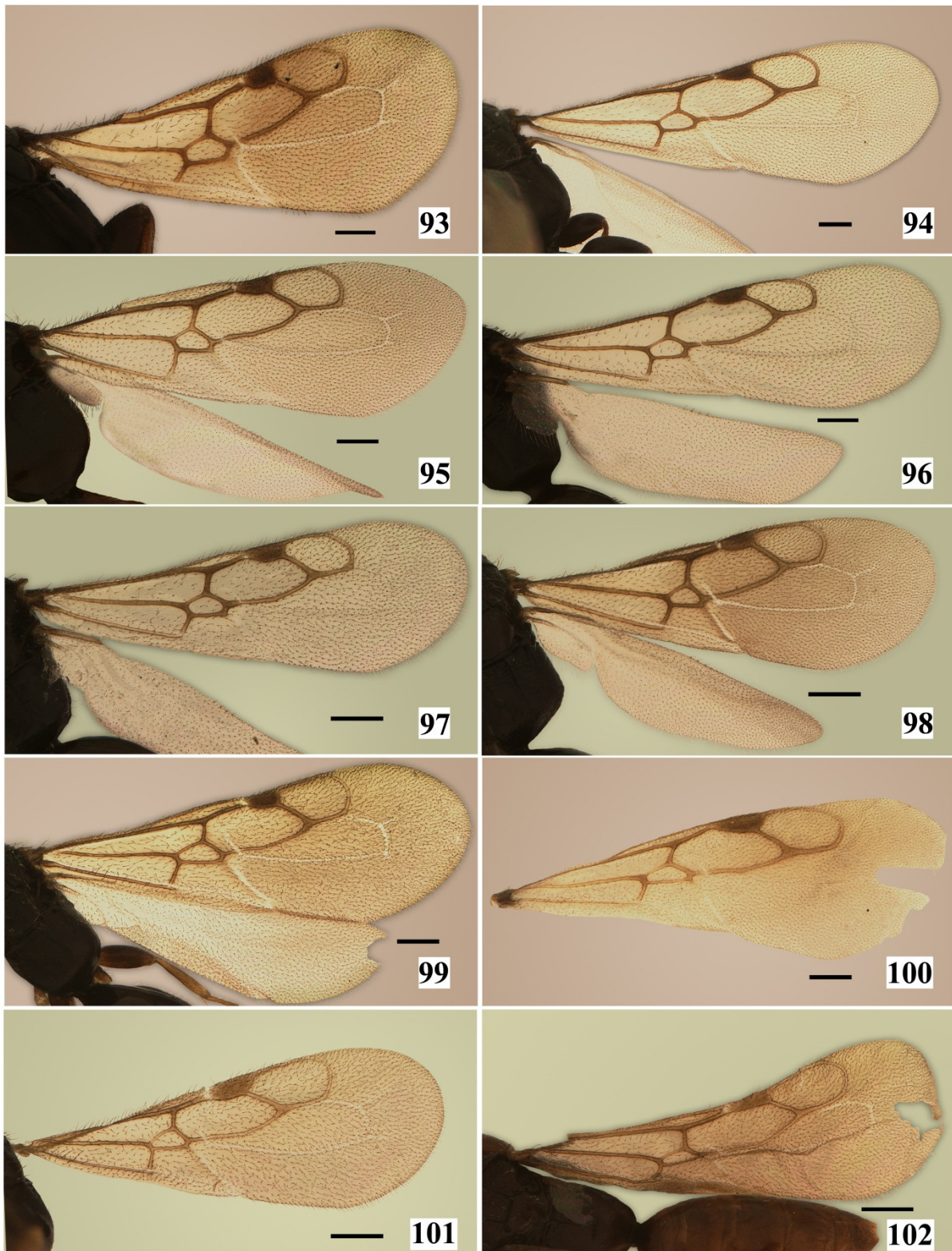
**Figures 75–83.** Mesosoma in dorsal view. 75. *E. sp. nov.* 22. 76. *E. sp. nov.* 23. 77. *E. sp. nov.* 24. 78. *E. sp. nov.* 25. 79. *E. sp. nov.* 26. 80. *E. sp. nov.* 27. 81. *E. sp. nov.* 28. 82. *E. sp. nov.* 29. 83. *E. sp. nov.* 30. (Scale bar = 300  $\mu$ m).





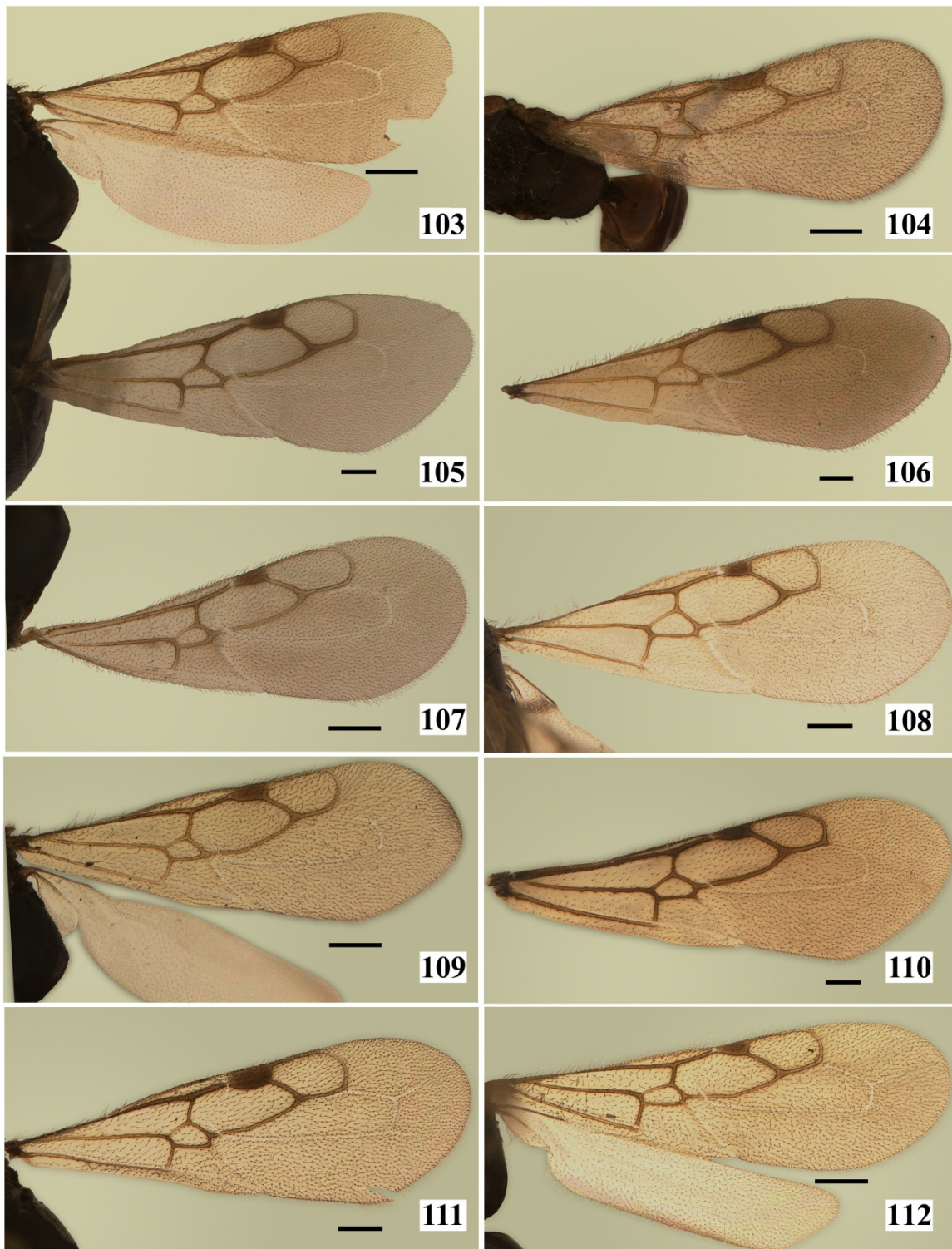
**Figures 84–92.** Mesosoma in dorsal view. 84. *E. sp. nov.* 31. 85. *E. sp. nov.* 32. 86. *E. sp. nov.* 33. 87. *E. sp. nov.* 34. 88. *E. sp. nov.* 35. 89. *E. sp. nov.* 36. 90. *E. sp. nov.* 37. 91. *E. sp. nov.* 38. 92. *E. agilis*. (Scale bar = 300  $\mu$ m).





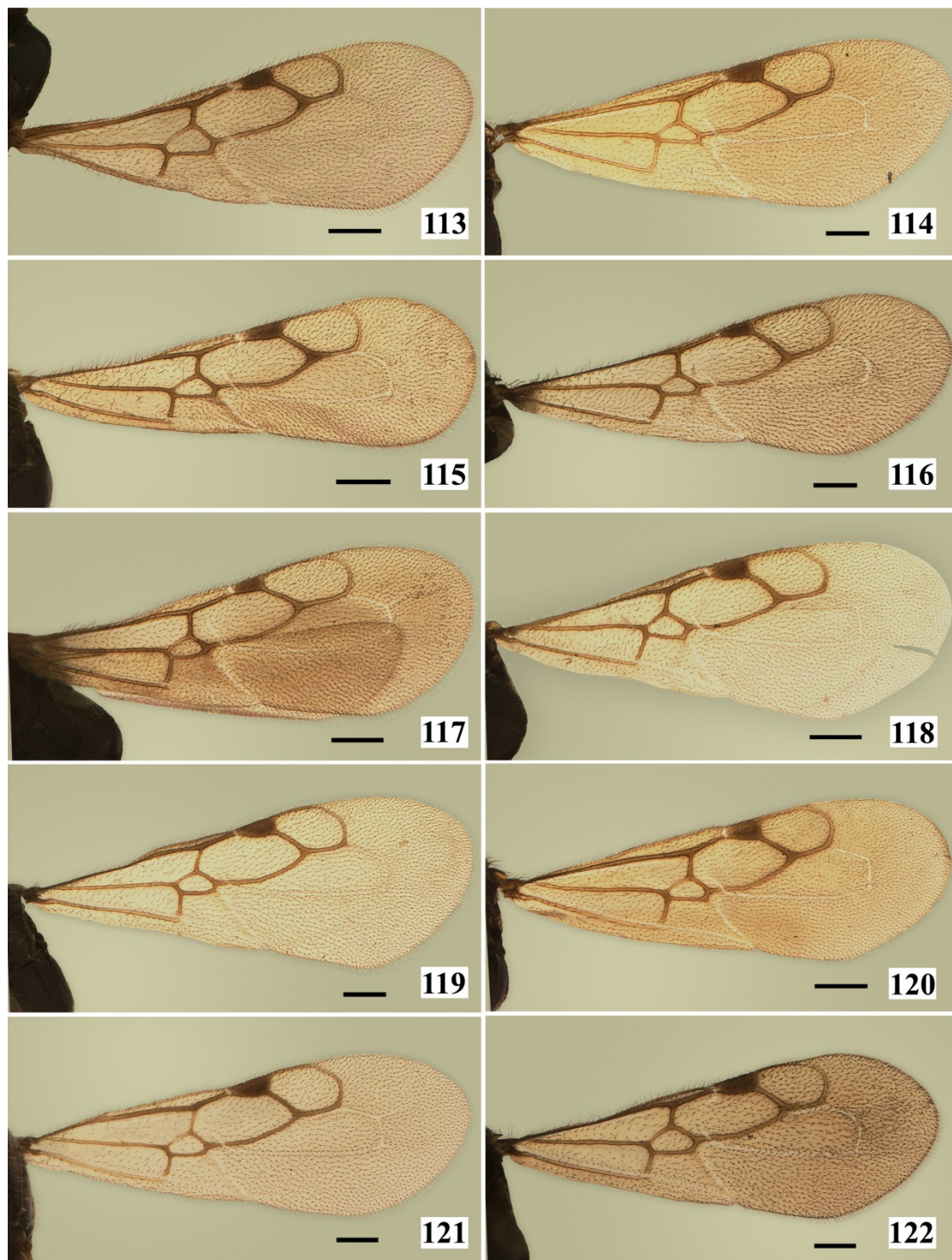
**Figures 93–102.** Right forewing. 93. *Eupsenella ceciliae*. 94. *E. diemenensis*. 95. *E. flavifemorata*. 96. *E. insulana* female. 97. *E. insulana* male. 98. *E. reticulata*. 99. *E. sp. nov. 1*. 100. *E. sp. nov. 2*. 101. *E. sp. nov. 3*. 102. *E. sp. nov. 4*. (Scale bar = 300  $\mu$ m).





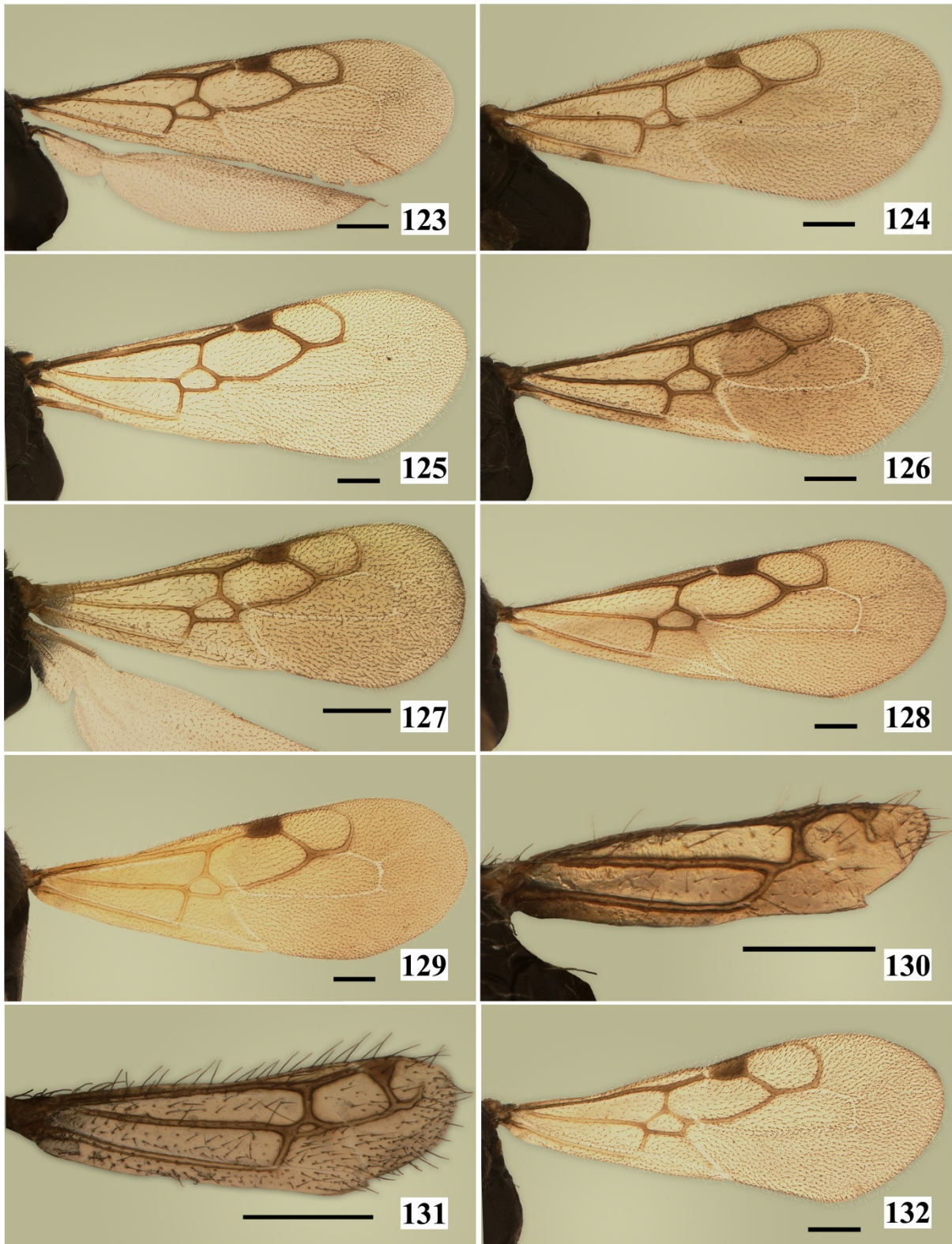
**Figures 103–112.** Right forewing. 103. *E. sp. nov.* 5. 104. *E. sp. nov.* 6. 105. *E. sp. nov.* 7. 106. *E. sp. nov.* 8. 107. *E. sp. nov.* 9. 108. *E. sp. nov.* 10. 109. *E. sp. nov.* 11. 110. *E. sp. nov.* 12. 111. *E. sp. nov.* 13. 112. *E. sp. nov.* 14. (Scale bar = 300  $\mu$ m).



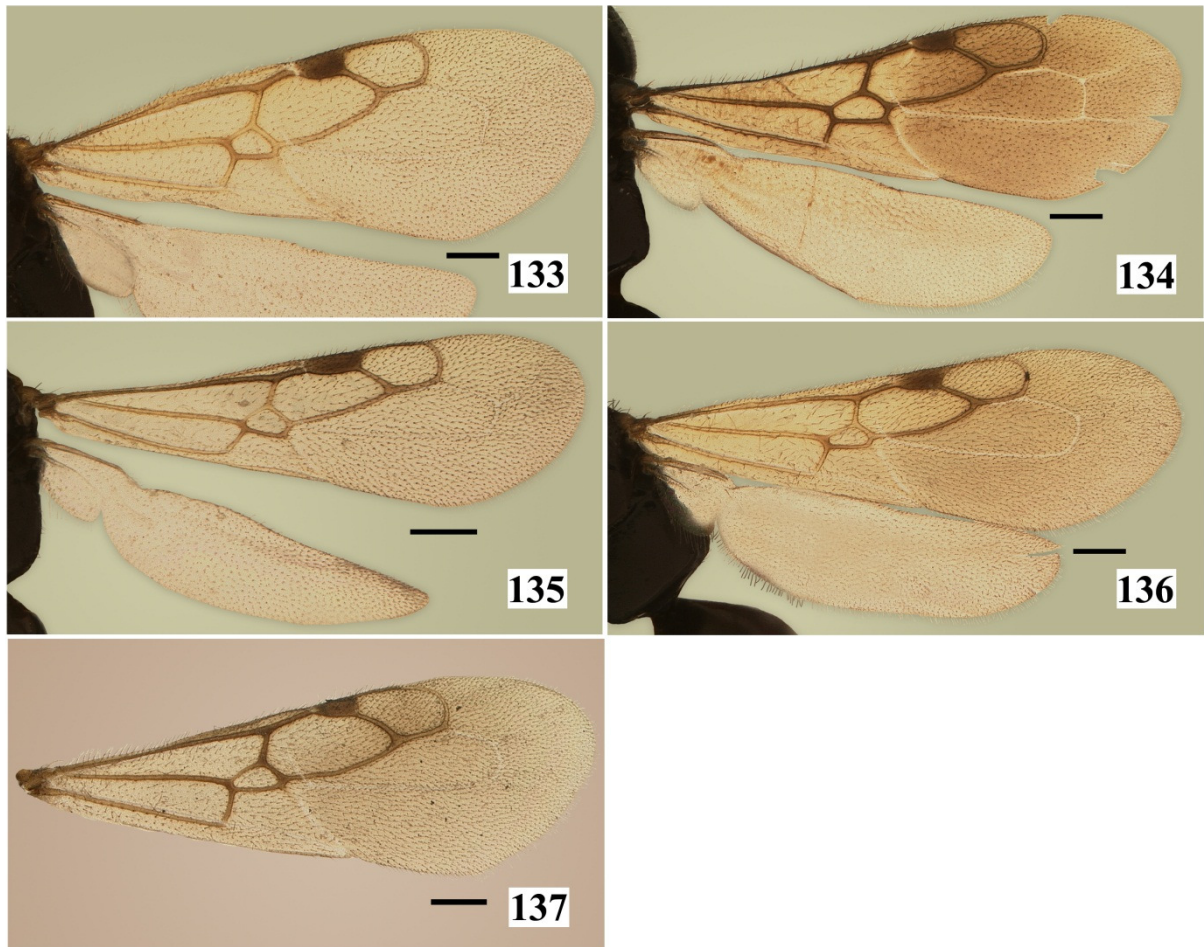


**Figures 113–122.** Right forewing. 113. *E. sp. nov.* 15. 114. *E. sp. nov.* 16. 115. *E. sp. nov.* 17. 116. *E. sp. nov.* 18. 117. *E. sp. nov.* 19. 118. *E. sp. nov.* 20. 119. *E. sp. nov.* 21. 120. *E. sp. nov.* 22. 121. *E. sp. nov.* 23. 122. *E. sp. nov.* 24. (Scale bar = 300  $\mu$ m).



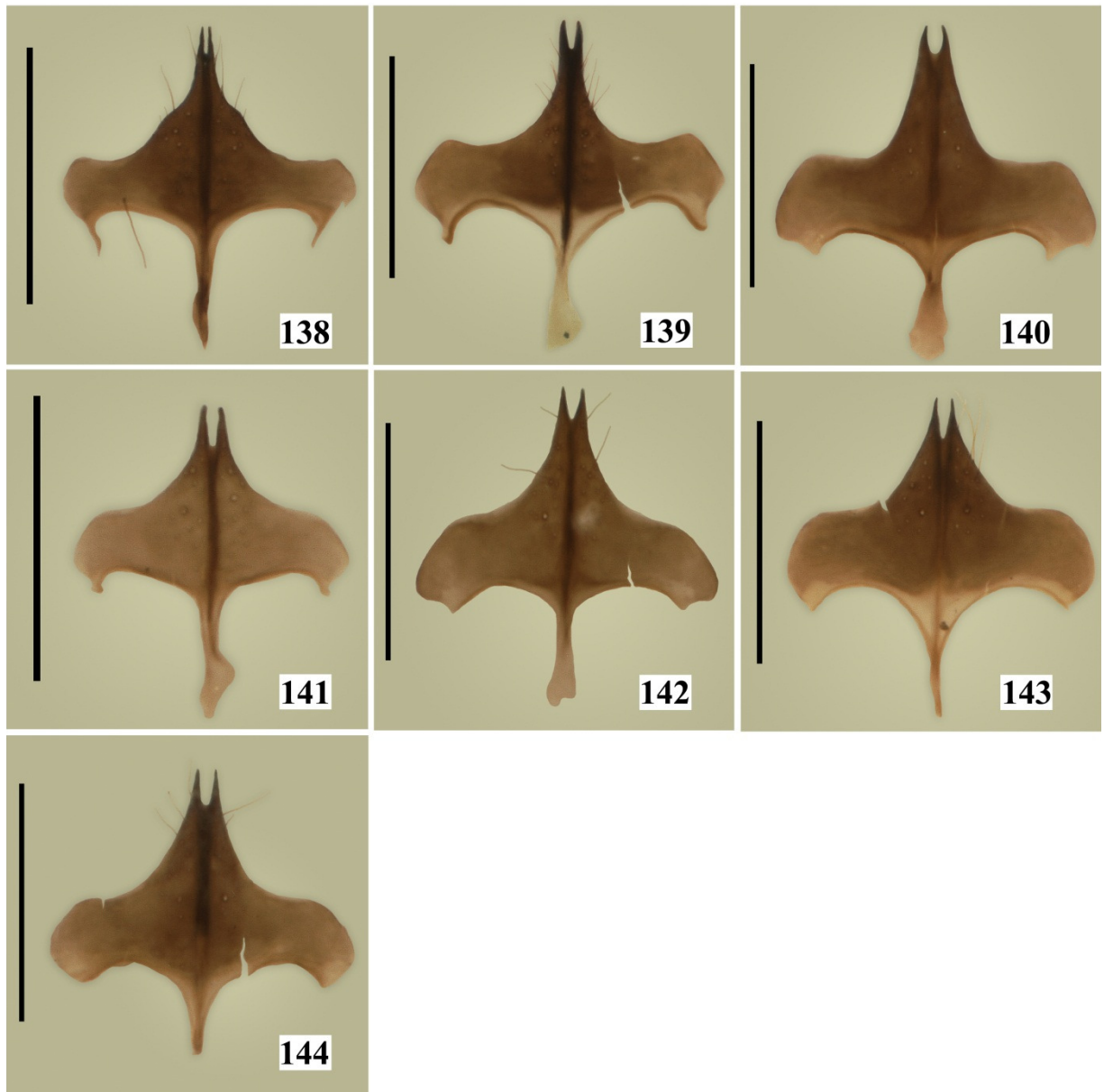


**Figures 123–132.** Right forewing. 123. *E. sp. nov.* 25. 124. *E. sp. nov.* 26. 125. *E. sp. nov.* 27. 126. *E. sp. nov.* 28. 127. *E. sp. nov.* 29. 128. *E. sp. nov.* 30. 129. *E. sp. nov.* 31. 130. *E. sp. nov.* 32. 131. *E. sp. nov.* 33. 132. *E. sp. nov.* 34. (Scale bar = 300  $\mu$ m).

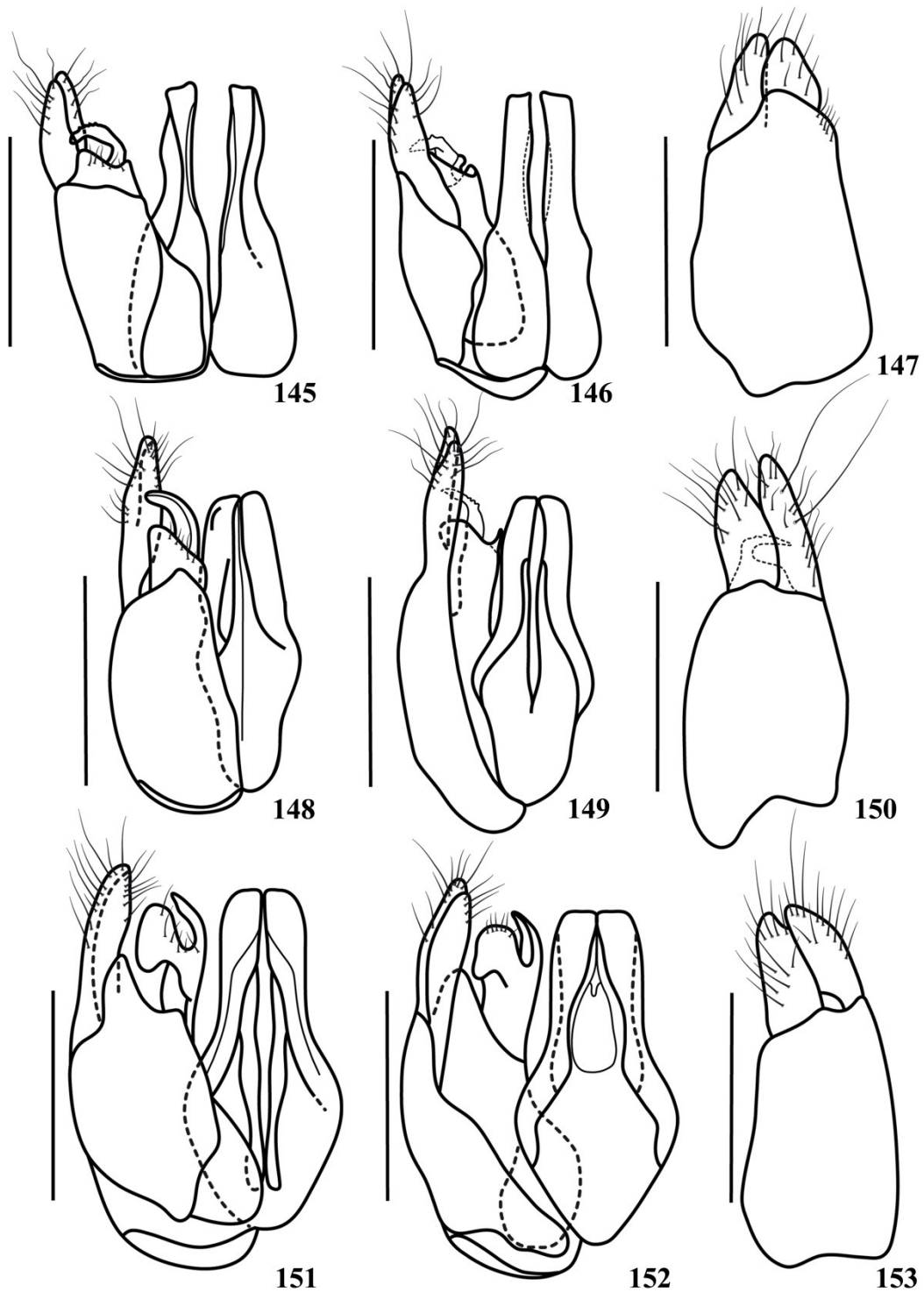


**Figures 133–137.** Right forewing. 133. *E. sp. nov.* 35. 134. *E. sp. nov.* 36. 135. *E. sp. nov.* 37. 136. *E. sp. nov.* 38. 137. *E. agilis*. (Scale bar = 300  $\mu$ m).

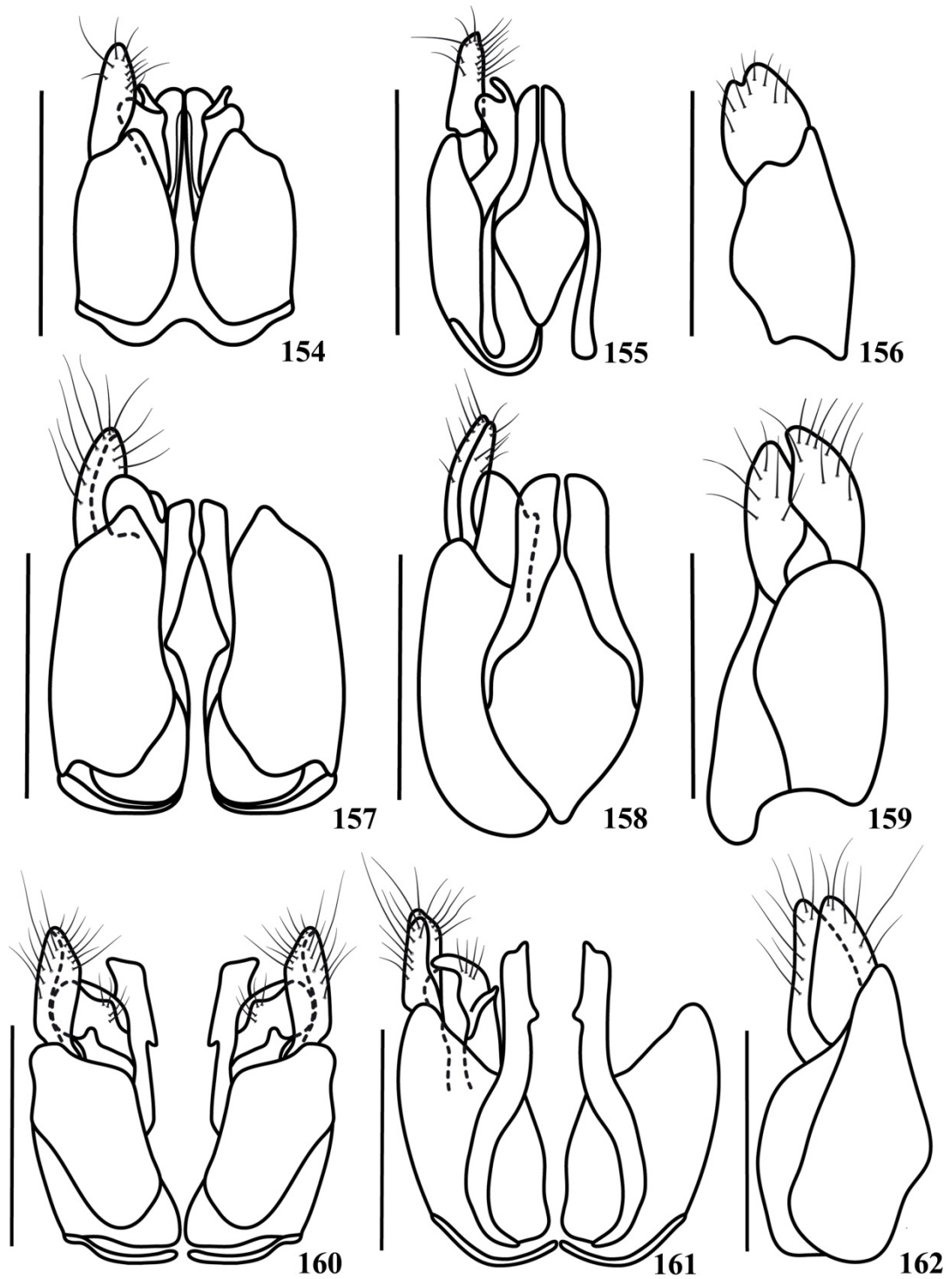




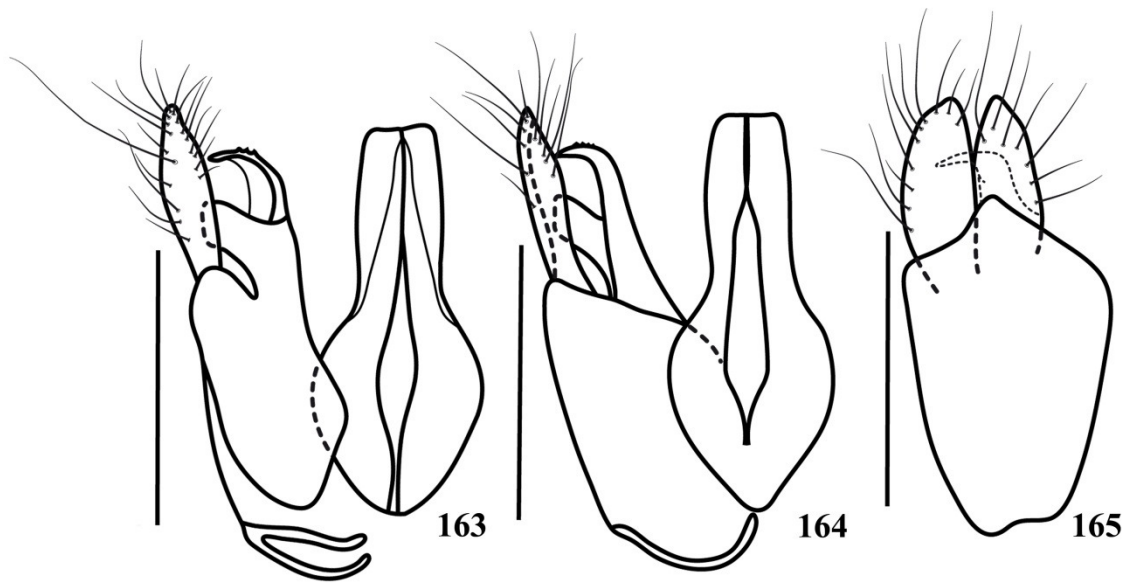
**Figures 138–144.** Hypopygium. 138. *E. insulana* male. 139. *E. sp. nov.* 1. 140. *E. sp. nov.* 2. 141. *E. sp. nov.* 3. 142. *E. sp. nov.* 4. 143. *E. sp. nov.* 5. 144. *E. sp. nov.* 6. (Scale bar = 300  $\mu$ m).



**Figures 145–153.** Male genitalia. 145–147 *E. insulana* male; 145. Ventral view; 146. Dorsal view; 147. Lateral view. 148–150 *E. sp. nov. 1*; 148. Ventral view; 149. Dorsal view; 150. Lateral view. 151–153 *E. sp. nov. 2*; 151. Ventral view; 152. Dorsal view; 153. Lateral view. (Scale bar = 250  $\mu$ m).



**Figures 154–162.** Male genitalia. 154–156 *E. sp. nov. 3*; 154. Ventral view; 155. Dorsal view; 156. Lateral view. 157–159 *E. sp. nov. 4*; 157. Ventral view; 158. Dorsal view; 159. Lateral view. 160–162 *E. sp. nov. 5*; 160. Ventral view; 161. Dorsal view; 162. Lateral view. (Scale bar = 250 μm).



**Figures 163–165.** Male genitalia. 163–165 *E. sp. nov.* 6; 163. Ventral view; 164. Dorsal view; 165. Lateral view. (Scale bar = 250  $\mu$ m).